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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

NINETY-NINTH CONGRESS

SECOND SESSION

ON

S. 2827

A BILL MAKING APPROPRIATIONS FOR THE DEPARTMENT OF DEFENSE FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1987, AND FOR OTHER PURPOSES

PART 3—(Pages 1–531)

Aircraft Procurement and RDT&E
Army Modernization
Defense Acquisition Policies
Defense Manpower Requirements
Navy Shipbuilding, Ship Maintenance and Modernization and Related Research and Development
Reserve Forces

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

WEDNESDAY, MARCH 12, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, McClure, Andrews, D'Amato, Rudman, Proxmire, and Sasser.

DEPARTMENT OF DEFENSE

ASSISTANT SECRETARY OF DEFENSE

STATEMENT OF HON. JAMES P. WADE, JR., ASSISTANT SECRETARY OF DEFENSE (ACQUISITION AND LOGISTICS)

ACCOMPANIED BY:

- **HON. JAY R. SCULLEY, ASSISTANT SECRETARY OF THE ARMY (RESEARCH, DEVELOPMENT AND ACQUISITION)**
- **HON. EVERETT PYATT, ASSISTANT SECRETARY OF THE NAVY (SHIPBUILDING AND LOGISTICS)**
- **DANIEL S. RAK, DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE (ACQUISITION AND MANAGEMENT)**

DEFENSE ACQUISITION POLICIES

OPENING STATEMENT OF SENATOR STEVENS

Senator STEVENS. Good morning.

We have just witnessed the historical occasion of turning on the live radio coverage which, as we all know, is just a preliminary to full electronic media coverage of the Senate's activities.

Today we are here to receive testimony on various aspects of the Defense Department's acquisition policy. The President's Blue Ribbon Commission on Defense Management, the Packard Commission, has just released its interim report on this subject which is one of the aspects we plan to discuss today.

The fiscal impacts of proposed legislation, existing departmental policy, and recommended reforms are of concern to this committee, particularly on warranties that I think were primarily initiated by our good friend from North Dakota, Senator Andrews. Recommended reforms involved in the Commission's report are of very much concern to the subcommittee.

We welcome you back, Secretary Wade, Assistant Secretary of Defense for Acquisition and Logistics. I understand you have along with you some other people. If they want to come to the table, it will be fine with us; it is your call.

I am informed that Dr. Jay Sculley, Assistant Secretary of the Army for Research, Development and Acquisition; Hon. Everett Pyatt, Assistant Secretary of the Navy for Shipbuilding and Logistics; and Daniel S. Rak, Deputy Assistant Secretary of the Air Force for Acquisition and Management, are with you.

Additionally, we are told that retired Air Force Maj. Gen. Graham Rider, who is a consultant on warranties in defense contracts, will be a witness today.

I want to restate our policy to which so far there has been no voiced opposition—10 minutes for questions for each Senator in the order in which the Senator came to the committee room.

We would ask witnesses to be brief in summarizing written statements, all of which will be placed in the record, and also in responding to the Senators' question because 10 minutes lapse very quickly if the answers are extremely long.

We know you would not do that, Dr. Wade.

Dr. WADE. Absolutely.

Senator STEVENS. We appreciate the opportunity to be with you.

Does any member have an opening statement?

Senator ANDREWS. I have, Senator.

OPENING STATEMENT OF SENATOR ANDREWS

Because of our clearcut responsibility for determining how the taxpayers' money is spent, our committee quite rightly initiated the requirement for warranties on the purchase of major weapons systems 3½ years ago. This was done, Doctor, as you know, over the strong opposition of the Defense Department.

Those of us who initiated the warranty requirement are intrigued with how it has fared since it was codified in title X in 1984. Warranties are nothing new in the past. We have had warranties on workmanship and materiel, but these warranties now go to performance.

They give this committee the ability to tell what a new airplane will do or what an engine will do, what a tank will do, before we appropriate the money for it or at least before we appropriate the money in a great series of dollars. Warranties, of course, go to the very heart of the acquisition process. They most often reflect the confidence in the product and its reliability that the manufacturer has and that it is doing the things under the conditions for which the item is purchased.

By offering warranty for a longer coverage period, equipment failures or component replacement, defense contractors gain an edge in the purchase of their products in the case of competitors' similar products.

Mr. Chairman, we found that true in the derivative fighter engine warranty system which we initiated first before we had the general warranty. We had savings of $3 billion in enhanced competitiveness.

Today's hearing should give us a better feel for how this warranty system is working. That is why I appreciate the chairman's calling the hearing today. That is the line of questions that this Senator intends to follow.

Senator STEVENS. Thank you very much.

Any other opening statements, gentlemen?

Dr. Wade, we are happy to have you with us. We will be glad to hear your comments.

STATEMENT OF JAMES WADE

Dr. WADE. Thank you, Mr. Chairman and members of the committee.

It is a pleasure to be here to discuss with you matters of mutual interest bearing on DOD acquisition. I want to thank the chairman for this opportunity to continue a dialog between Congress and the Department of Defense and for your interest in the implementation of procurement reform legislation.

PACKARD COMMISSION INTERIM REPORT

I do have a statement for the record. As you suggest, I would like to summarize the key parts and place it in the record. I would like to open with a brief comment on the Packard Commission's interim report and move on to some of the procurement initiatives that you have asked me to discuss.

The Packard report states that there is a legitimate cause for dissatisfaction with the process by which the Department of Defense and the Congress buy military equipment and materiel. The report has, indeed, been accepted by the President and is under review at this time.

The Commission's recommendations to streamline the organization, enhance program management authority through a shorter chain of command are goals that I agree with and we are looking forward to the acquisition panel report which should help clarify some of the findings and recommendations in the interim report from the Commission itself.

The report, in my judgment, is an important step forward, although the next step of implementation, of course, is the most important part.

MULTIYEAR PROCUREMENT POLICY

Now, as to multiyear procurement policy, our use of the multiyear contracting technique on major systems and programs which employs economic order quantity continues to be a successful approach that results in both savings and stability in those programs.

This year the Department of Defense has proposed seven candidate programs which, if fully implemented, have the potential of saving a little over $2 billion.

ECONOMIC PRODUCTION RATES

In reference to economic production rates, implementing more economic production rates is another important management initiative which can provide significant savings and reduce the time required to complete the inventory objective for a major weapon system.

It has, however, become increasingly difficult to implement more economic production rates which require additional near-term, up-front resources in order to achieve a longer term saving.

For the defense acquisition executive, the recent organization change that established my office has, indeed, strengthened the acquisition process by combining the procurement policy and the logistics function under one Assistant Secretary of Defense.

It placed the responsibility for milestone two, the full-scale engineering developmental decisions, with the Under Secretary of Defense for Research and Engineering and the important milestone three production decision with my office.

The check and balance of this management arrangement has placed the acquisition executive responsibility with the Deputy Secretary of Defense who speaks for and responds directly to the Secretary of Defense on acquisition issues for both major milestones.

COMPETITION

Now, to competition. We have responded to the need for competition in the acquisition process. I am pleased to report that we now competitively acquire around 48 percent of our procurement dollars which amounts to 72 percent of our action.

Our own actions have provided additional impetus in the Competition in Contract Act of 1984. It provides for the full and open competitive procedures in the procurement of property and services. In compliance with the law, our implementation was issued effective April 1, 1985.

WARRANTIES

Now, to the subject of warranties. Our implementation of warranties on weapon systems is well underway. The defense acquisition regulatory system issued policy guidance and the services have issued their guidance in support of our efforts to institutionalize the use of warranties in the weapon system acquisition process.

Since most of our equipment under warranty will start to be delivered in the next few years and actual field experience under warranty coverage is still several years away, we will not have adequate data on cost effectiveness for some time to come.

ACQUISITION WORKFORCE

Our acquisition workforce. I firmly believe that one, if not the most important thing that we can do to enhance the efficiency and the effectiveness of our acquisition process is to enhance the overall quality and professionalism of our workforce across the Department of Defense.

A professional workforce trained, skilled, and motivated with clear career opportunity can achieve far greater effectiveness in our acquisition business than any quantity of regulations can achieve.

We are today pursuing efforts to enhance our training, providing criteria for advancement and exploring concepts to recognize this workforce as a profession, demanding both accountability for actions and reward for excellent performance.

The Packard Commission in this regard identified the need for the Department of Defense to attract, retain, and motivate well-qualified acquisition personnel. The report recommended increased flexibility in our personnel management policies which would further complement improvements to the defense acquisition process across the board.

We plan to aggressively pursue these areas because our most important asset in acquisition is our workforce. We must continue to assure the public that we have, indeed, a skilled professional acquisition workforce readily available to efficiently spend their dollars and at the same time attain the optimum defense needed for the United States.

Thank you, Mr. Chairman.

At this time I will be pleased to respond to your questions.

[The statement of Dr. Wade follows:]

STATEMENT

OF

THE HONORABLE JAMES P. WADE, JR.
ASSISTANT SECRETARY OF DEFENSE
FOR
ACQUISITION AND LOGISTICS

ON

SELECTED ACQUISITION MATTERS

IT IS A PLEASURE TO BE HERE TO DISCUSS SEVERAL ACQUISITION TOPICS. I WANT TO THANK SENATOR STEVENS FOR THIS OPPORTUNITY TO CONTINUE A DIALOG BETWEEN CONGRESS AND THE DOD, AND FOR YOUR INTEREST IN THE IMPLEMENTATION OF PROCUREMENT REFORM. WITHOUT QUESTION, THE LEGISLATION ENACTED OVER THE LAST FEW YEARS HAS BEEN THE MOST SUBSTANTIAL CHANGE TO PROCUREMENT LAW SINCE THE ENACTMENT OF THE ARMED SERVICES PROCUREMENT ACT OF 1947.

YOU HAVE INDICATED INTEREST IN SEVERAL AREAS. THIS STATEMENT IS NOT ATTEMPTING TO PROVIDE AN OVERVIEW OF THE ENTIRE ACQUISITION AREA, BUT IS FOCUSING ON SPECIFIC AREAS OF INTEREST IDENTIFIED BY THE SUBCOMMITTEE.

I WOULD LIKE TO OPEN WITH A BRIEF COMMENT ON THE PACKARD COMMISSION INTERIM REPORT AND MOVE ON TO SOME OF THE PROCUREMENT INITIATIVES WE HAVE UNDERTAKEN SINCE 1981. THE PACKARD REPORT STATES THAT THERE IS LEGITIMATE CAUSE FOR DISSATISFACTION WITH THE PROCESS BY WHICH THE DEPARTMENT OF DEFENSE AND CONGRESS BUY MILITARY EQUIPMENT AND MATERIAL. THE REPORT HAS BEEN ACCEPTED BY THE PRESIDENT AND IS UNDER REVIEW. THE COMMISSION'S RECOMMENDATIONS TO STREAMLINE THE ORGANIZATION AND ENHANCE PROGRAM MANAGER AUTHORITY THROUGH A SHORTER CHAIN OF COMMAND ARE GOALS I AGREE WITH. WE ARE LOOKING FORWARD TO THE PANEL REPORT WHICH WILL HELP CLARIFY SOME OF THE FINDINGS AND RECOMMENDATIONS. I THINK THE REPORT IS AN IMPORTANT STEP FORWARD.

MULTIYEAR PROCUREMENT POLICY

OUR USE OF THE MULTIYEAR (MYP) CONTRACTING TECHNIQUE ON MAJOR SYSTEMS AND PROGRAMS, WHICH EMPLOYS ECONOMIC ORDER QUANITY (EOQ), CONTINUES TO BE A SUCCESSFUL APPROACH THAT RESULTS IN BOTH SAVINGS AND STABILITY. THIS YEAR THE DEPARTMENT HAS PROPOSED SEVEN CANDIDATE PROGRAMS WHICH COULD SAVE A LITTLE OVER TWO BILLION DOLLARS. THESE PROGRAMS INCLUDE THE FOLLOWING CANDIDATES: UH/EH-60 AIRFRAME (FOLLOW-ON TO AN EXISTING MYP), F/A-18 AIRCRAFT, PATRIOT, STINGER, AND HARM (JOINT NAVY/AIR FORCE PROGRAM) MISSILE PROGRAMS AND THE MK-45 GUN MOUNT AND DEFENSE SUPPORT PROGRAM. SINCE THE INITIAL USE OF MYP IN 1982 THE DEPARTMENT HAS SUBMITTED 60 MULTIYEAR CANDIDATES IN PRIOR BUDGETS AND CONGRESS HAS APPROVED 40 OF THESE PROGRAMS. THE 40 APPROVED PROGRAMS CARRY A POTENTIAL SAVINGS VALUE OF 6.2 BILLION DOLLARS. LAST YEAR WE HAD EIGHT OUT OF OUR TEN CANDIDATES APPROVED. WE HOPE WE CAN CONTINUE TO ENJOY CONGRESSIONAL SUPPORT FOR THIS VALUABLE CONTRACTING TECHNIQUE.

ECONOMIC PRODUCTION RATES

IMPLEMENTING MORE ECONOMIC PRODUCTION RATES IS ANOTHER IMPORTANT MANAGEMENT INITIATIVE WHICH CAN PROVIDE SIGNIFICANT SAVINGS AND REDUCE THE TIME REQUIRED TO COMPLETE THE INVENTORY OBJECTIVE FOR A MAJOR WEAPON SYSTEM. WE HAVE

IDENTIFIED A RANGE OF ECONOMIC PRODUCTION RATES FOR MAJOR PROGRAMS, AND SYSTEMATICALLY EXAMINE WHETHER CURRENT ANDPLANNED PRODUCTION FALLS WITHIN THE MOST EFFICIENT RANGE. IN INSTANCES IN WHICH PRODUCTION RATES ARE INEFFICIENT, WE OFTEN INCREASE PRODUCTION RATES TO A MORE EFFICIENT LEVEL, THEREBY REDUCING UNIT COSTS AND PROVIDING INCREASED QUANTITIES OF EQUIPMENT IN A SHORTER TIME SPAN. IN FY 1983 WE ACHIEVED $2.3 BILLION IN UNIT COST SAVINGS FOR 18PROGRAMS BY PRODUCING THEM AT RATES THAT TAKE ADVANTAGE OF ECONOMIES OF SCALE. FOR EXAMPLE, THE AIM-9M AIR-TO-AIR MISSILE UNIT COST WAS REDUCED FROM $178,000 IN FY 1981 TO $83,000 WHEN THE PROCUREMENT QUANTITY WAS INCREASED SIX-FOLD. UNFORTUNATELY, BUDGET REDUCTIONS BELOW PLANNED LEVELS HAVE ERODED THESE SAVINGS DURING THE PAST THREE YEARS. IT HAS ALSO BECOME INCREASINGLY DIFFICULT TO IMPLEMENT MORE ECONOMIC PRODUCTION RATES WHICH REQUIRE ADDITIONAL NEAR-TERM RESOURCES IN ORDER TO ACHIEVE LONG TERM SAVINGS.

DAE RESPONSIBILITY

THE RECENT ORGANIZATION CHANGE THAT ESTABLISHED MY OFFICE HAS STRENGTHENED THE ACQUISITION PROCESS BY COMBINING THE PROCUREMENT POLICY AND LOGISTICS FUNCTIONS UNDER ONE ASD. IT ALSO PLACED THE RESPONSIBILITY FOR THE MILESTONE II, FULL-SCALE ENGINEERING DEVELOPMENT DECISION WITH THE USDRE AND FOR MILESTONE III, THE PRODUCTION DECISION, WITH MY OFFICE. THE CHECK AND BALANCE OF THIS MANAGEMENT ARRANGEMENT HAS PLACED THE ACQUISITION EXECUTIVE RESPONSIBILITY WITH THE DEP SEC DEF WHO SPEAKS FOR AND RESPONDS DIRECTLY TO THE SECRETARY OF DEFENSE ON ACQUISITION ISSUES FOR BOTH MAJOR MILESTONES.

COMPETITION

WE HAVE RESPONDED TO THE NEED FOR COMPETITION IN THE ACQUISITION PROCESS AND I AM PLEASED TO REPORT THAT WE NOW COMPETITIVELY ACQUIRE 48% OF OUR PROCUREMENT DOLLARS - 72% OF THE ACTIONS. OUR OWN ACTIONS HAVE BEEN PROVIDED ADDITIONAL IMPETUS BY THE COMPETITION IN CONTRACTING ACT OF 1984 (CICA). IT PROVIDES FOR THE USE OF FULL AND OPEN COMPETITIVE PROCEDURES IN THE PROCUREMENT OF PROPERTY AND SERVICES. IN COMPLIANCE WITH THE LAW OUR IMPLEMENTATION WAS ISSUED EFFECTIVE APRIL 1, 1985.

THE PURPOSE OF THE ACT IS CLEARLY IN ACCORD WITH OUR OBJECTIVES. OUR EFFORTS TO ENHANCE COMPETITION STEMMED FROM THE ACQUISITION IMPROVEMENT PROGRAM INITIATED IN 1981, ALSO KNOWN AS THE 'CARLUCCI INITIATIVES.' WE HAVE SIGNIFICANTLY INCREASED THE EXTENT OF COMPETITION IN THE PROCUREMENT OF PROPERTY AND SERVICES. IN TERMS OF DOLLARS AWARDED, THE PERCENTAGE OF COMPETITION ACHIEVED IN FY 1985 WAS 48 PERCENT, AN INCREASE OF 5 PERCENTAGE POINTS OVER FY 1984. FOLLOW-ON PROCUREMENTS TO SOURCES INITIALLY SELECTED THROUGH COMPETITION WAS 27 PERCENT IN FY 1985. AN OVERALL COMPETITION GOAL FOR DOD IN FY 1986 HAS BEEN ESTABLISHED AT 50 PERCENT.

THERE HAS BEEN AN INCREASE IN OUR PROCUREMENT LEADTIME PARTIALLY BECAUSE OF THE REQUIRED SYNOPSIS PROCEDURES AND PARTIALLY BECAUSE THE FIRST TIME WE PREPARE A COMPETITIVE SOLICITATION AND SOURCE SELECTION CRITERIA, IT DOES TAKE LONGER. THE NEED TO SYNOPSIZE ALL PROPOSED PROCUREMENT ACTIONS IN EXCESS OF $10,000 FOR FIFTEEN DAYS IN ADVANCE OF RELEASING THE SOLICITATION AND THEN PROVIDING A THIRTY DAY BID TIME CONTRIBUTES TO INCREASED PROCUREMENT LEADTIME. THE REVIEW AND EVALUATION OF BIDS/OFFERS FROM UNTRIED SOURCES WILL ALSO CONTRIBUTE TO INCREASED LEADTIMES. WE BELIEVE THIS IS MANAGEABLE AND ARE HOPEFUL THAT AS OUR ACTIVITIES BECOME ACCUSTOMED TO THESE PROCEDURES THE PROCUREMENT LEADTIMES WILL BE REDUCED.

THE ACT HAS ALSO LAID A STATUTORY BASE FOR THE GENERAL ACCOUNTING OFFICE TO DECIDE BID PROTESTS. OVER THE YEARS WE HAVE FOUND THIS FORUM FOR HEARING BID PROTESTS TO BE VERY ACCEPTABLE. THE ACT ALSO ESTABLISHED ANOTHER FORUM, THE GENERAL SERVICES ADMINISTRATION BOARD OF CONTRACT APPEALS, TO DECIDE BID PROTESTS INVOLVING THE PROCUREMENT OF AUTOMATIC DATA PROCESSING (ADP) EQUIPMENT ON A THREE YEAR TEST BASIS. SINCE A BIDDER CAN ALSO GO TO THE FEDERAL COURT, WE HAVE MULTIPLE FORA FOR HANDLING PROTESTS. ALTERNATIVE FORA WHERE PRIOR DECISIONS OF ONE FORUM ARE NOT BINDING ON THE OTHERS CAN CREATE DIFFICULTIES FOR OUR CONTRACT ACTIVITIES.

SINGLE SOURCE PROCUREMENT

THE ACT ALSO PROVIDES SEVEN EXCEPTIONS TO FULL AND OPEN COMPETITION. SINGLE

SOURCING MUST MEET ONE OF THESE EXCEPTIONS. USE OF AN EXCEPTION REQUIRES A JUSTIFICATION AND CERTIFICATION BY THE CONTRACTING OFFICER, AS WELL AS APPROVAL ABOVE THE CONTRACTING OFFICER RANGING UP TO THE SENIOR PROCUREMENT EXECUTIVE FOR THE MILITARY DEPARTMENT. IF THE CONTRACTING ACTION IS OVER $10 MILLION, WE HAVE DESIGNATED COMPETITION ADVOCATES WHO PLAY HEAVILY IN THIS PROCESS.

WHEN SINGLE SOURCING IS NECESSARY, THE GOVERNMENT HAS SEVERAL SAFEGUARDS TO INSURE FAIR AND REASONABLE PRICES. THE CONTRACTOR MUST PROVIDE COST DATA AND WHEN THE AWARD EXCEEDS $100,000 IT MUST CERTIFY THAT THE DATA IS CURRENT, ACCURATE AND COMPLETE. WE SUBJECT SUCH COST DATA TO INTENSE EXAMINATION BY AUDITORS IN THE DEFENSE CONTRACT AUDIT AGENCY, COST AND PRICE ANALYSIS AND TECHNICAL REVIEWS. BASED ON THESE REVIEWS WE NEGOTIATE THE FINAL PRICE. A PROVISION IS INCLUDED IN SINGLE SOURCE CONTRACTS WHICH AUTHORIZES THE GOVERNMENT TO AUDIT THE DATA INITIALLY CERTIFIED UP TO THREE YEARS AFTER FINAL PAYMENT. FURTHER, THE GOVERNMENT IS AUTHORIZED TO ADJUST THE CONTRACT PRICE DOWNWARD IF A SUBSEQUENT AUDIT SHOWS THE CERTIFIED DATA WAS DEFECTIVE: THAT IS THE DATA WAS NOT CURRENT, ACCURATE OR COMPLETE. IN THOSE INSTANCES WHEN A CONTRACT IS FLEXIBLY PRICED, SUCH AS AN INCENTIVE CONTRACT OR A COST CONTRACT, THE CONTRACTS MAY BE AUDITED AT ANY TIME DURING THE PERIOD OF THE CONTRACT PERFORMANCE AND ARE ALWAYS AUDITED AT CONTRACT COMPLETION. ONLY COSTS WHICH ARE REASONABLE, ALLOWABLE AND ALLOCABLE UNDER FEDERAL ACQUISITION REGULATION (FAR) PART 31 ARE ACCEPTED AND THE FINAL PRICE AND PAYMENT FOR THE CONTRACT IS DETERMINED ON THAT BASIS. FURTHER, ANNUAL SUBMISSIONS OF THE INDIRECT COST ALLOCATIONS MUST BE CERTIFIED BY A COMPANY OFFICIAL AS ALLOWABLE COSTS SUBJECT TO THE PENALTY FOR PERJURY AS A FALSE AND FRAUDULENT CLAIM IF THE COSTS ARE INCORRECT. WE ARE CURRENTLY PURSUING REFINEMENTS AND REVISIONS TO OUR COST PRINCIPLES TO FURTHER DELINEATE ALLOWABLE AND UNALLOWABLE COSTS.

WARRANTIES

OUR IMPLEMENTATION OF WARRANTIES ON WEAPON SYSTEMS IS WELL UNDERWAY. THE DEFENSE ACQUISITION REGULATORY SYSTEM ISSUED POLICY GUIDANCE IN COMPLIANCE WITH THE DEFENSE PROCUREMENT REFORM ACT WHICH ADDED A NEW SECTION 2403 TO TITLE 10 UNITED STATES CODE. THE SERVICES HAVE ISSUED THEIR GUIDANCE IN SUPPORT OF OUR EFFORTS TO INSTITUTIONALIZE THE USE OF WARRANTIES IN THE WEAPON SYSTEM ACQUISITION PROCESS.

WE HAD ISSUED ONE WARRANTY WAIVER IN FY 1984. WE HAVE NOT ISSUED ANY WARRANTY WAIVERS FOR ACQUISITIONS FROM U.S. CONTRACTORS DURING FY 1985. WE DID, HOWEVER, FIND IT NECESSARY TO GRANT A WAIVER IN FY 1985 IN THE INTEREST OF NATIONAL DEFENSE FOR THE ACQUISITION OF FOURTEEN RAPIER MISSILE FIRE UNITS PURCHASED FROM THE UNITED KINGDOM. WE ATTRIBUTE THE LIMITED NUMBER OF WARRANTY WAIVERS TO THE CONCERTED EFFORTS OF THE ACQUISITION WORKFORCE TO PURSUE FORCEFULLY THE USE OF WARRANTIES AND TO TAILOR CONSCIENTIOUSLY THE ARRANGEMENTS TO DERIVE THE MOST COST EFFECTIVE WARRANTY COVERAGE. SINCE MOST OF OUR EQUIPMENT UNDER WARRANTY WILL START TO BE DELIVERED IN THE NEXT FEW YEARS AND ACTUAL FIELD EXPERIENCE UNDER WARRANTY COVERAGE IS STILL SEVERAL YEARS AWAY, WE WILL NOT HAVE ACCURATE DATA ON COST EFFECTIVENESS FOR SOME TIME TO COME.

THE DAR COUNCIL, WITH MEMBERSHIP FROM THE ARMY, NAVY, AIR FORCE AND THE DEFENSE LOGISTICS AGENCY, IS IN THE PROCESS OF MAKING FURTHER REFINEMENTS TO OUR EXISTING WARRANTY POLICY GUIDANCE AS A RESULT OF OUR EXPERIENCING FROM IMPLEMENTING THE USE OF WARRANTIES ON MAJOR SYSTEMS. IN ADDITION , OUR DEFENSE SYSTEMS MANAGEMENT COLLEGE IS WORKING TOWARD ISSUING A HANDBOOK FOR WARRANTIES THAT CAN BE USED BY PROGRAM MANAGEMENT OFFICES. THE HANDBOOK WILL ALSO BE INCORPORATED INTO THE SCHOOL CURRICULUM FOR THEIR PROGRAM MANAGEMENT COURSES.

ACQUISITION WORKFORCE

I FIRMLY BELIEVE THAT THE MOST IMPORTANT THING WE CAN DO TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF OUR ACQUISITION PROCESS IS TO ENHANCE THE OVERALL QUALITY AND PROFESSIONALISM OF THE WORKFORCE ACROSS THE DEPARTMENT. A PROFESSIONAL WORKFORCE TRAINED, SKILLED, AND MOTIVATED WITH CLEAR CAREER OPPORTUNITIES CAN ACHIEVE FAR GREATER EFFECTIVENESS IN OUR ACQUISITION BUSINESS THEN

ANY QUANTITY OF REGULATIONS CAN ACHIEVE. WE ARE PURSUING EFFORTS TO ENHANCE TRAINING, PROVIDING CRITERIA FOR ADVANCEMENT AND EXPLORING CONCEPTS TO RECOGNIZE THIS WORKFORCE AS A PROFESSION DEMANDING BOTH ACCOUNTABILITY FOR ACTIONS AND REWARDS FOR EXCELLENT PERFORMANCE.

THE PACKARD COMMISSION IDENTIFIED THE NEED FOR DOD TO ATTRACT, RETAIN, AND MOTIVATE WELL QUALIFIED ACQUISITION PERSONNEL. THE REPORT RECOMMENDED INCREASED FLEXIBILITY IN PERSONNEL MANAGEMENT POLICIES WHICH WOULD FURTHER COMPLEMENT IMPROVEMENTS TO THE DEFENSE ACQUISITION PROCESS. WE PLAN TO AGGRESSIVELY PURSUE THESE AREAS BECAUSE OUR MOST IMPORTANT ASSET IN ACQUISITION IS THE WORKFORCE. WE MUST CONTINUE TO ASSURE THE PUBLIC THAT WE HAVE A SKILLED AND PROFESSIONAL ACQUISITION WORKFORCE READILY AVAILABLE TO EFFICIENTLY SPEND THEIR DOLLARS AND AT THE SAME TIME ATTAIN THE OPTIMUM DEFENSE NEEDED FOR THE COUNTRY.

IMPLEMENTATION OF WARRANTY LAW

Senator STEVENS. Thank you very much, Dr. Wade. I am pleased to have those comments, particularly about how you are implementing this whole warranty policy.

Senator Andrews.

Senator ANDREWS. Thank you, Mr. Chairman.

Dr. Wade, you said the implementation of the warranty law is well underway, in your words.

How is it working?

Dr. WADE. Senator Andrews, in my opinion, the process is working very well. Now that we have gotten over the initial deliberations in the context of how to go about doing warranties the way they should be done, I think the Department as a whole is fully behind this process, and understands the importance of warranties.

The three services are continuing to feel out and understand how to do cost-effective analysis. I think in a general bottom line statement it is doing well indeed.

Senator ANDREWS. Has the use of the provisions so far given you any feeling as to the cost savings to the Government because of greater system reliability?

Dr. WADE. I think warranties are only one aspect of our total approach to provide quality and reliability of our weapon systems. I think it is an important aspect and provides added initiative to make sure we do the kind of calculations to provide the assurance that we are going in the right direction.

So, I would agree that we are going to see savings from the program. I think we are going to see savings across the board as we continue to do those many new initiatives that we have underway to improve the quality of our system as a whole.

What I would summarize here is that it is an important aspect. I think it is only one of many. Again, it is helpful overall. As I discussed, I fully support the warranty initiative that you have sponsored for the Department.

GRANTING OF WAIVERS

Senator ANDREWS. Do you have a policy, written or unwritten, that waivers will not be granted?

Dr. WADE. We have a policy in our defense acquisition circular that indicates waivers for major weapon systems have to be approved at an Assistant Secretary level. For anything less than that, it can be initiated lower than that. I think right now the performance is such that we did not see any waivers in 1985, except the one program which we have with the UK on the Rapier missile systems. This procurement went back to a MOU of 1981 and we complied with that basic MOU.

Senator ANDREWS. Does the absence of these waivers indicate that cost-effectiveness analysis have been prepared and they support the need for warranties and the program is, indeed, working well?

Dr. WADE. I think we can do better and we are trying to do better in the sense of how we structure the individual warranty and perform the cost-effective analysis for each one of our systems. I think this area is where the service is spending a lot of its time.

We have a Defense Management College preparing what I would term a guideline to be used in our instructional courses to help provide direction on how to perform cost-effective analysis. I think we will see improvements and we will learn further as we use warranties.

From my standpoint, policy level at DOD, we are doing very well.

COMPETITION AS A RESULT OF WARRANTIES

Senator ANDREWS. The original thrust, of course, of this subcommittee in putting warranties into the law was to provide more competitiveness. We did that in the case of the derivative fighter engine contract. They allowed that competitiveness because warranties, of course, were part of the overall bidding process.

Different periodicals, Time magazine and Washington Post, in editorial comments listed savings of two to $3 billion in the competitiveness factor on the warranty system on that one derivative fighter engine.

Are those accurate figures?

Dr. WADE. Yes, sir; the figure is correct for the overall savings resulting from competition.

Senator ANDREWS. Do you feel a warranty application can take care of this article in the Washington Post this morning where it says troop carrier report called too rosy?

BRADLEY VEHICLE

GAO says vulnerability tests on the Bradley vehicle were not realistic. I realize the Bradley vehicle got underway before we had warranties.

If we have warranties on performance, wouldn't they list what type of round that vehicle was supposed to protect the troops against and wouldn't it have given us better guidelines?

Dr. WADE. I have to say yes, Senator Andrews, but I would prefer to take a different tack. I think some of the problems that we have uncovered in the Bradley that are in the process of being fixed should never have occurred.

If you look at some of the initiatives I have underway to improve the overall quality of the high tech workforce within DOD to make sure that our testing programs are fully aboard at the beginning rather than at the end, to look at the overall process, that you will find warranties, although important, become less important if you do the front end planning right.

I think there is an impetus to do that and it will be part of the program.

Senator ANDREWS. The front-end planning has been so faulty for so many years that warranties will guarantee that that front end planning is done right?

Dr. WADE. It will help; yes, sir.

Senator ANDREWS. In the real word if everything works perfectly, the specs you get out of DOD are accurate and if the contract for compliance is good and wholehearted, you do not need warranties. Warranties provide a sort of police force to make sure things work.

Dr. WADE. Yes, sir. I think it is an important element, but it is not the only one.

Senator ANDREWS. What have you done to take a look at the problem again?

We are dealing with comments that were made when we threshed this out in our committee and the Legislative Committee?

The charge was made it would cost more money to have warranties. We make the argument that you will save money with warranties because you do not want a weapon that does not perform.

INCREASED COSTS AS RESULT OF WARRANTIES

Is there an increased cost through the use of warranties?

Dr. WADE. As I indicated earlier, I would say indications will start coming in as the programs that have these warranties are put in the field and we can see the results of their use in operation.

The other part, of course, is that we are not going to put a warranty on a weapon system where the cost of the warranty is not cost effective. That is a common sense approach.

With that kind of ground rule and the fact that we should be doing better in the overall context of how we go about acquiring these weapon systems, that we will see savings. The use of warranties is part of our process. As I said before, I would not be supporting the use of warranties if I did not think it made sense. It is one aspect of many that will save us money.

Senator ANDREWS. One of the problems we have sitting behind this bench listening to your testimony, when you and your fellow officials in the Defense Department come up and sponsor a new fighter plane or a new ship or a new type of tank, you tell us it is better and we should appropriate *x* billions of dollars for it.

We do not know how much better. We do not know the degree. With warranties you will be able to give us actual bottom line, shall we say, standards so that we can do a top flight job of evaluating just exactly whether it is wise to invest the Nation's money in that.

That is the way the system should work.

Dr. WADE. Yes, sir.

Senator ANDREWS. Thank you very much, Mr. Chairman.

Senator STEVENS. Senator Rudman.

Senator RUDMAN. Thank you, Mr. Chairman.

REORGANIZATION UNDER PACKARD REPORT

Dr. Wade, I would like to look at the Packard report that, in conjunction with the authorization bill out of the Armed Services Committee, authorizes reorganization.

Both of those documents address a problem I have been talking about for a couple of years in this committee: the layering of personnel in various kinds of management positions which I believe impede rather than help the process we are talking about this morning.

Could you comment on those sections of the report that talk about streamlining the process, taking some of these middle areas out and shortening the command structure? I know a memo, either famous or infamous, that you wrote several years ago addressed this problem.

Dr. WADE. Yes, sir; first, I wrote the memo last summer.

Senator RUDMAN. I guess time flies when you are having fun.

Dr. WADE. It is still current, I might say.

I think there are several facets that I would like to address in response to your comment.

First of all, I think it is important to understand that in 1981 when the defense program was put together in the context of the will of the American people, that was a very large program that was assembled, prepared and brought to the Congress and presented and defended. I think it has been well accepted and it is now well underway.

We have seen over the past 4-plus years as part of that program a series of very major acquisition improvements that have been put in place by the Department with the support of the Congress.

What I mean by that is that there are improvements dealing with the integration of the planning and budget process with the acqusition process, the multiyear program, the economic production rate, and, most importantly, competition.

I really want to underline the point that we have saved or avoided many billions of dollars as we look to the future as new weapons hit the field. As we look to the future and note the budget restraints that we have in front of us, that the most important fact we need to face is the execution of the program we have right now.

That really means reliability, it means competition for excellence. If you want to talk about quality of your program, you really have to have a high-quality workforce. The two go together.

CIVILIAN AND MILITARY WORKFORCE IN DOD

The Department of Defense is a high tech program. In order to have high tech in our system and be succcessful and not have the kind of problems we saw with the Bradley, we have to spend a good deal of time looking at and making a true profession of our civilian and military workforce.

When you look at the current workforce, there are two aspects that are in place today.

ACQUISITION WORKFORCE

One, we have too many people in acquisition. That really gets to the point of streamlining. In other words, you can draw the force down, pick up the quality and give them the responsibility they need, and get rid of many of the regulations that prevent many from being a manager. Then I think you can see some major progress as we look to the future.

These kinds of improvements will not take place tomorrow and the impact will not be seen next week. Again, they really go to the structure of our problem. We have been working hard in the sense of moving in this direction.

I believe to try to use a corollary and that is that the Congress and the Department of Defense were quite successful in the past 5 years in improving the overall makeup of our combat force, pay, quality of life, and their working conditions.

I think we really did not provide a similar priority to the acquisition workforce. This is where I believe our attention is needed. We need to examine the kinds and numbers of people, and go about improving the workforce on a DOD-wide basis. You will then see many of these layers in front of us drawn down and the quality going up.

TRIM PROPOSAL

Senator RUDMAN. I agree with your answer. The fact of the matter is last year this committee adopted part of my proposal—the TRIM proposal—to try to get people out of the indirect support area and make the tooth-to-tail ratio of our combat forces more useful.

Your answer is if you get the right people, the right structure, and take out some of the bureaucratic impediments, you can get the system to work more effectively.

Just for the record, and I do not state these numbers in any accusatory way, but I think they are interesting—if you look at the amount of volume we are purchasing, it seems to me, could be trimmed.

PERSONNEL IN VARIOUS COMMANDS

The Army Materiel Command has 9,800 officers and enlisted people, 118,000 civilians.

The Air Force Systems Command, which I have discussed with General Skantze on a number of occasions, has nearly 12,000 officers, 16,000 enlisted personnel, 28,000 civilians, including a tremendous number at the very high GS levels.

Now we know they are at the GS levels. Whether they are there because they get promoted over a period of time or whether they are the kind of people you are talking about, I do not know the answer.

The Air Force Logistics Command has about 3,000 officers, 8,000 enlisted personnel, and close to 90,000 civilians.

It just seems, at least to me, having visited many of the facilities and talked to many people, that if we can do what the Packard Commission is talking about, what the internal Pentagon memoranda have said for years—certainly the last 1½ years I am aware of having followed this issue—we ought to be able to do something about getting the number of people down.

I am not saying reduce the end strength of the services. I am saying take those people from those slots and put them where they are needed.

Dr. WADE. I agree with that.

I have also observed in the past where people have believed that some of the inherent regulations in personnel management, particularly toward our civilians, restrict the opportunities to go and make these kinds of improvements.

I also believe at this time with the sensitivity of both the Congress and the Department of Defense and the American people toward the need of making those kinds of changes, that we have an opportunity in front of us that we should not lose and we should be moving in that direction over the next 6 to 12 months.

PROBLEMS FROM CONGRESS

Senator RUDMAN. I think Congress is part of the problem and we have to recognize that. There are obligations Congress imposes on DOD that at a particular time in history may have been wise to deal with a particular problem, but in many cases the Departments themselves can deal with the problem.

I wonder how much work we have required of you. I think our Chairman had a terrific idea for hearings this year. If we want to ask you a question for the record, he established some rules. We can ask the question, but we are going to be told how many man-hours it took to prepare that answer. That is reasonable. I notice a lot fewer questions being asked for the record and I think that is good.

The final point I want to make really comes indirectly under your bailiwick.

KICKBACKS IN CALIFORNIA DEFENSE INDUSTRY

Are you aware of the hearings that Senator Cohen chaired before the Government Affairs Committee 10 days ago involving kickbacks in the defense industry in California?

Dr. WADE. Yes, sir.

Senator RUDMAN. I attended those hearings. We have had a number of meetings since then with individuals. There were a number of convictions for these kickbacks. There is overwhelming evidence that it is a very prevalent practice in the industry involving not the companies themselves, obviously, but in many cases the buyers. It involves hundreds of millions of dollars and maybe more.

One of the problems we uncovered is that when the companies themselves discover the kickbacks, rather than prosecuting, they simply want to get rid of the person who then shows up 6 months later in another key position working for another contractor.

No. 1, are you aware of the problem?

No. 2, what do you intend to do about it?

If you do not have any plans, can you at least get back to us in a few months and tell us what you are doing about it?

Dr. WADE. Yes, sir.

First of all, we are aware of the problem. In many of these areas the issues were uncovered by the auditing procedures in DOD.

Certainly an important measure that needs to be added is to increase the penalties associated with this type of behavior.

Second, I think it is also important that DOD and industry leadership give this problem high priority. I believe this was a key recommendation of the Packard Commission.

Third, they have to, and I think they are, taking more to heart the fact that they have a special charge with the Department of Defense and a special responsibility to the American taxpayer to spend these dollars wisely.

We have to make sure that there is a discipline from the top down in the context of all these matters we are uncovering at this time.

Senator RUDMAN. My time is just about up.

PENALTIES FOR KICKBACK OPERATIONS

I would like to look into the possibility of imposing fairly severe penalties, disincentives if you will, to the management of these corporations so that when they find a situation like this existing they do not brush it under the rug, let the fellow go, never let DOD know that there were literally hundreds of thousands of dollars involved simply for their own corporate image. In one case a fellow made $475,000 in 14 months from kickbacks on small parts by making sure the bids that came in were only bids he had screened—he had his deal made with his favorite supplier.

The other problem, and this is more important than money, was that some very qualified suppliers could not do business with these contractors on major subassemblies because they would not play the game and the people who were doing the business were not qualified.

I think this is a major problem. I know you have a lot to do, but I hope you are looking at it. It comes indirectly under what you are concerned with.

Dr. WADE. Yes, sir.

Senator RUDMAN. Thank you very much.

Senator STEVENS. Senator McClure.

METHOD OF DEALING WITH PROBLEMS

Senator McClure. Mr. Chairman, I have a few questions, some specific questions that I will submit for the record dealing with acquisitions of particular systems or weapons for response for the record.

I want to ask two or three questions with respect to process.

I note your statement and I want to commend you not only for the statement, but the leadership you are giving and really trying to do something about the problems we have uncovered.

I note you highlight several different areas in your statement. There is one that is not highlighted and it is one that troubles me because it surfaced early, it was mentioned in our hearings last year, it is mentioned in the Packard Commission report, it is not mentioned in your statement.

I do not know whether that is a curious omission or an assignment of priority. That has to do with the process which we follow, that every time we find a problem, we pass another law, a whole series of regulations, hire more personnel to make certain that they are all followed properly, that all the forms get filled out and filed.

God knows who looks at them afterward. But that process I think we have identified as being part of the problem of having become overly rigid, in which too much effort goes into the process and not enough in the result. That was not mentioned in your statement.

Do you have any comments about either the problem or the solution?

Dr. Wade. Yes, sir.

First of all it is a very, very important topic. The only reason it is not in my statement is that we are responding to topics that the congressional staff asked me to comment on. We could probably spend a couple hours on this subject. Let me try to summarize a few points.

No. 1 is that what you are really suggesting in your question is that when we find a problem, we try to solve the problem through the regulatory process. I think that is going in the wrong direction.

We have done as much as we should at this time and perhaps a correct approach would be to try to digest what we have behind us and then look to the future in the context of what I believe are the important matters and who makes the process work. That is the people force.

They will make the organization work if they are the kind of people you want in the process. I do believe, and I will say at this time, that I think we need somewhat more centralization in how we go about managing our defense business to assure ourselves that DOD matters are at the top of the list rather than trying to correct the problem through the various services.

I think we need a little more centralization in the sense of oversight and execution of the programs. The process also drives the question of requirement.

The Packard Commission addressed this matter. I think they will spend more time in the next 2 or 3 months.

If you look at the requirement, management, and people, I think this is the heart of how you should be looking toward the future. This is where I am putting my efforts.

Senator McClure. I do not disagree with what you are saying. If you get good people, you also have to have both good structure and regulations and laws.

Dr. Wade. Yes, sir. Otherwise, they will not come aboard.

GOOD MANAGEMENT NEEDS GOOD PEOPLE

Senator McClure. I think one of the very important aspects of any good management system is that you find good people and you delegate responsibility and authority and if they do not measure up to their responsibility and do not adequately exercise their authority, get rid of them. That is the way it should work.

Dr. Wade. Yes, sir.

Senator McClure. If you have the capacity to get rid of them, you can make that work. If you do not have the capacity to get rid of them, you give them responsibility, if they do not meet that responsibility, then the whole system fails, is that not correct?

Dr. Wade. Yes, sir.

I would note that the most important thing to get good people is to assure them that there is, one, a responsible job and, two, there is an opportunity to contribute and an opportunity to go up.

If you try to draw ceilings on what your future will be, you will find people going elsewhere where there are opportunities. I would rather be more positive than negative. If you take that on, you will find less and less need to fire people.

Senator McClure. I think one of the recommendations of the Packard Commission report is that Congress should work with the administration to recodify all the statutes governing procurement into a single governmentwide procurement statute.

What can you tell me is done specifically with respect to proposals coming from the administration as to the changes in the laws.

Dr. Wade. First of all, the approach that we have taken up to now is to suggest that we have ample regulations that have been provided in the last several years. Let us digest those and see how they work.

Senator McClure. If we could cover the enemy with regulations, they would be defeated by now.

Dr. Wade. I think more importantly one can argue we have made our program managers technocrats rather than managers. They have to go through so many loops, checkpoints, deadlines and schedules, he spends more time doing that than actually managing his program. I think the three service Secretaries are with me and will also subscribe to that.

Senator McClure. I agree, but specifically what are we doing?

You keep getting back to let us analyze what we have.

ANALYSIS

What are we doing in terms of analysis? Where are you in the process of analysis? What are we doing to get rid of needless regulations and overlapping?

Dr. WADE. The Packard Commission report, of course, is so large in scope, it would take several years to fully comply with it.

Nevertheless, we take these regulations very seriously. To be specific, I would like to go back and reflect on that. There are lots of aspects to this that we have to have agreement on before we proceed to look toward regulations.

Senator McCLURE. I do not disagree with that at all. I think we will be subject to a great deal of criticism. I imagine the minute you strike out some regulation somebody will say you are trying to get away with something and some critique will say you are going to ease up on them.

If you are going to ease up on statutes and regulations, you will also have to do something about responsibility and accountability.

Dr. WADE. Yes, sir.

MAJOR SYSTEMS PROCUREMENT

Senator McCLURE. I do not see that happening. You are doing a great deal with respect to major systems procurement. Nearly all the things we talked about deal with the big dollar items, I mean the big individual dollar items, but the aggregate of very small purchases and decisions is also a very big dollar item. I do not see us doing much about that.

I do not know why in the world you cannot have a staff sergeant go down to the hardware store and buy one bolt instead of all the procurement actions and the distribution that goes with it.

I know if you start buying all the bolts for all the services at one time, you have a big job. Most of the bolts you find in the hardware store can do the job that has to be done. That requires not centralization, but decentralizaton of some of the very small and routine procurement items, most of which are not really major defense decisions.

Dr. WADE. First of all, in reference to buying bolts from a hardware store, you know the famous story of the hammer and the price of the hammer that was almost paid for by DOD. Somebody made the comment why do you not go to the hardware store and buy one?

The facts are the number of hammers we bought and the price we payed during that 1 year was a good deal less than we would have payed at the hardware store because we went out and bought them in large quantities.

Your real message is correct and that is that we should be spending more time looking toward items and subsystem components that have been developed, to see how we can put those in the force rather than going out and starting anew.

DRIVING FORCE FUNCTION

At the same time, the external threat that is in front of us is a requirement that we have to go about designing the kind of weapon systems and the quality of the weapon systems that best handles the threat. That is the driving force function.

But the Department, through the services, through OSD, is spending more time making sure that we try to use development items. For example, one very, very important example was the recent Army matter of buying the so-called mobile subscriber system, new tactical communications system, a proven system done by one of our allies. This is a very, very key example of the importance of using equipment that has already been developed and is readily available to satisfy our needs.

Senator McCLURE. You say by procuring in large quantities, we pay less.

Did you include in the cost just the price we paid for the hammer or did you include in the cost of that hammer their purported share of all the personnel that Senator Rudman is referring to and all the paper that it entailed?

Dr. WADE. I am sure that both of them are entailed. Nevertheless, if you pay less than what you can in the open market, you are doing pretty good, Senator.

Senator McCLURE. Indeed, if you are looking at the exact price of the hammers without looking at all the overhead cost of buying them, then, indeed, you have a false picture.

Dr. WADE. Absolutely.

ANTIFRAUD BILLS

Senator McCLURE. I am afraid I see a lot of that in Government everywhere. It is not just in the Defense Department. It happens to be more obvious in the Defense Department because you are dealing with larger numbers.

Does the Department of Defense favor or oppose the Cohen antifraud bill and the Grassley antifraud bill?

Dr. WADE. I think we have it under review at this time. I would prefer not to say whether we agree or not.

Senator McCLURE. Do you know when the review will be completed?

Dr. WADE. I am not sure, but certainly in the near future.

Senator McCLURE. I wonder if you could provide for the record either an estimate of when you might be able to give us a recommendation and also what the impact of the bills might be on defense contracting?

Dr. WADE. Yes, sir.

[The information follows:]

COHEN AND GRASSLEY ANTIFRAUD BILLS

The Department of Defense testified on Bill S. 1134 (Senator Cohen) on June 18, 1985, before the Subcommittee on Oversight of Government Management. The Deputy Inspector General provided the testimony which was generally supportive of the bill. Along with the administration we also support Bill S. 1562.

Senator McClure. Thank you.

Senator Stevens. Thank you.

TWO-YEAR DEFENSE BUDGET FOR FIVE-YEAR PLAN

The Packard Commission recommended several things: a 2-year defense budget for the 5-year plan that weapons be funded at two key milestones, full-scale engineering development, and at the time of high rate production, that the DOD be run as a commerical business, in effect, and at least on commercial principles, that more stable planning and budget environment be developed, that we establish an Under Secretary of Defense for Acquisition and shorten and streamline the reporting chain from program managers to their defense acquisition executive, that we make use of building and testing prototype systems, and that there be a new Vice Chief of the JCS with the Chairman acting as a single voice to the President and Secretary of Defense.

Almost everyone we have heard from has said these are all good recommendations. The President endorsed the Commission report.

What are you doing to implement it?

Dr. Wade. Mr. Chairman, as far as the acquisition side is concerned, we have it under review. It has only been less than 2 weeks since the report came out.

We have started to examine, for example, the important recommendation on looking toward better unification of our transportation assets, both land, sea and air. We have started on that problem.

Certainly we are looking at the question of the new Under Secretary of Defense for Acquisition. That is being reviewed.

Many of these items we have underway right now in the Department.

Senator Stevens. We are primarily concerned with cost.

EFFECT ON 1987 BUDGET OF COMMISSION REPORT

How will that Commission's report affect this budget that is before us now for 1987 money?

Dr. Wade. I think in the main most of these recommendations in the Packard report will have out-year impact.

Senator Stevens. Has there been a cost analysis of the Commission's report prepared by your people, Dr. Wade?

Dr. Wade. No, sir.

Senator Stevens. I think there should be one and see whether there is anything we might be able to mandate in our bill if there are cost savings that could be achieved by carrying out the Commission's report.

I understand Mr. Taft has been designated the Defense Acquisition Executive.

Is that part of the implementation of the Commission's report or was that initiated prior to the Commission's concept?

Dr. Wade. That was initiated prior to the Commission's finding, Mr. Chairman.

REDUCTION IN PROCUREMENT AND ACQUISITION PERSONNEL

Senator STEVENS. The Commission recommends a substantial reduction in procurement personnel and acquisition personnel.

Have you reviewed that?

Dr. WADE. We have been working on that problem for the last several months. I believe it was really some of the input from my Office that helped that recommendation along. I fully subscribe to it. It is a very, very detailed and important area that will have to be addressed to get there.

Nevertheless, even if it will impact in the long term, we need to start now.

Senator STEVENS. I am sure some of my colleagues are going to try to quantify that recommendation and come in with an amendment to cut this budget.

Have you looked at it from that point of view? How can you quantify that recommendation?

Dr. WADE. When you talk about the changes in the makeup of the acquisition workforce, Mr. Chairman, I believe those are out-year impacts. They are not going to have the immediacy in the sense of saving money. Nevertheless, you need to start now.

If you are somewhat inefficient in the makeup of your acquisition workforce, you have to accept that in order to provide the kind of equipment we have to put out in the force.

The recommendations from the Packard Commission, I think, are important incentives toward moving toward this workforce and that will take some time.

COST OF PROTOTYPES

Senator STEVENS. I remember watching some of the flyoffs around Douglas and in southern California. Private industry used to hear that we wanted a new fighter and several entrepreneurs would get together and decide what they thought the fighter ought to look like and presented the Army Air Corps with proposals.

Then we went into this whole concept of prototypes. Then we went into the new system that is the R&D system where we really finance the R&D of existing contractors and ask them to come up with proposals to meet projected defense needs.

Now the Commission seems to sort of want to have a hybrid of that whole procedure and sort of go back to the past, but look forward to the future with prototypes.

Have you looked at that from a cost point of view?

Dr. WADE. Yes, sir. Let us say we have started to study that part of the Commission report. I believe we need some further interaction with the specific panel. Dr. Perry's panel, as you know, provided that recommendation.

It is not clear that you can do that in all cases, namely, how close to a hard production piece of equipment can you build as far as a prototype and fly it before you really make a decision?

I think there needs to be some clarification in that regard and we expect that to be forthcoming in the next couple of weeks.

Senator STEVENS. I am concerned because it implies that we are going to be asked to finance the development of prototypes of several different versions of the same system. And then there will be some sort of competition with publicly financed prototypes.

To me that is going to increase the cost at a time when R&D budgets are under severe attack. I wonder, and I have a great respect for Mr. Packard and the people on the Commission, but I wonder if they have any realization of the attack this budget is under already.

Dr. WADE. I think that is a fair question because that is one of the elements of the acquisition strategy that needs clarification. Each major program has to have its own specific acquisition strategy. Whether or not it makes sense to build several prototypes, both from the standpoint of money and also from the standpoint of time involved, I think is an issue that needs to be resolved.

Senator STEVENS. I was going to submit this report to GAO and ask them to do a cost analysis of it, but I realized that their budget is under attack, too. That is probably a trip they do not have to take yet until we see whether or not the proposal of the Commission can be implemented by executive decision where it is cost effective. Then we can analyze that.

I would urge you to take a look at that from the point of view of the dollar impact of the changes in your proposed procurement policy.

Now, let me go to one other thing and I think there will be time for Senator Proxmire to ask his questions.

COMPETITION ON CONTRACTS

Seventy-two percent of the contracts that the Department will enter into in 1986 will be competitively awarded. That is my advice. It is approximately $105 billion. That still leaves 28 percent that is going out on sole-source procurement contracts.

It is our judgment that the story we hear about excessive cost are primarily in the area of sole-source contracts. We have added more auditors. We added 2,000 in 1 year alone in terms of the IG auditors.

So, the cost internally in terms of administration is going up in order to keep track of primarily the sole source contractors.

What steps are you taking to have improved management of the oversight of sole-source procurement contractors?

It seems that we have oversight of those that are competitively awarded, because the competitively awarded contracts ought to have built-in cost control mechanism, at least more so than the sole-source contracts.

Have you thought of putting the full pressure of your auditing procedures and the oversight procedures on the sole-source first?

Dr. WADE. First of all, if you look back from 1981 to 1985 and look at the statistics of how well we have done in competition, I think it is a very, very major success story. We have actually tripled the number of contract actions that have been in place at this time period under competitive award.

Certainly the dollar numbers, like 50 percent of the initial procurement items, are now done under competitive procurement action.

We have further instituted competition goals as we look to the future. We have something like 500 competition advocates throughout the buying commands.

Senator STEVENS. I am going to get back to this because it is Senator Proxmire's turn.

I want you to think about it and I want your people to think about the extent to which your policies have tried to prevent sole-source procurement problems rather than just discover them.

I think we are not doing the prevention work. I think you are overemphasizing the whole concept of discovery of the horror stories rather than instituting procedures so that they will not happen.

Senator Proxmire.

Senator PROXMIRE. Thank you, Mr. Chairman.

OVERESTIMATION OF INFLATION

The General Accounting Office issued a report that shows for fiscal 1986 the Defense Department will reap a $7.5 billion windfall because it overestimated for inflation. GAO found there was $7.5 billion in padding in the 1986 budget because the inflation you budgeted for this year is lower than expected.

To offset that windfall of $7.5 billion you have in the fiscal year 1986 budget, why shouldn't Congress automatically cut the fiscal year 1987 budget by $7.5 billion?

Dr. WADE. First of all, Senator Proxmire, I think when the inflation comes down and you look toward these future years from what we had projected, using the best estimates we had at the time, that in itself is a success story.

Senator PROXMIRE. I missed that last part.

Dr. WADE. I think that is a success story in the management of our program. We have been able to keep inflation down lower than what we initially had projected.

When we do have excess moneys available from these so-called inflation projections, you know they can, indeed, be reprogrammed within the Department of Defense.

Senator PROXMIRE. Would you not agree inflation is primarily caused by national developments of all kinds, changes in prices that have very little to do with DOD management?

Dr. WADE. Certainly when you talk about the aerospace industry with the very high tech equipment we have and we manage in the Department of Defense, we do have impact in that one regime.

I want to emphasize here that Congress basically, with our input, reprograms these excess funds. If they are less than the reprogramming authority, we can move this money and do more within the program.

For example, last year Congress reprogrammed $6.3 billion as a result of lower than expected inflation. This helps the program as a whole, but this interaction is a two-way street. It is maintained with the Department of Defense and Congress. I do not think it is the free money that your question implies.

REPROGRAMMINGS

Senator PROXMIRE. Will you list the reprogrammings to indicate what happened to the $7.5 billion, why we should not make some kind of reduction?

Dr. WADE. Yes, sir.

[The statement follows:]

Inflation Savings

INFLATION SAVINGS in DoD SINCE SEPTEMBER 1985
($ in Billions)

	FY 1982-1986
1. Congressional Financing of FY 1985 Supplemental	0.8
2. Congressional cut for Inflation Fairness	1.1
3. Congressional cut for Inflation Premium	1.7
2. Other Congressional cuts for Inflation (Estimated)	2.0
3. DoD Reapplied Savings in FY 1987 budget	2.2
TOTAL	7.8

GAO REPORT: POTENTIAL FOR EXCESS FUNDS IN DoD MARCH 1986 UPDATE

In the September 1985 report, GAO estimated the inflation dividends between FY 1982 and 1985 for all DoD purchases. This report extends the GAO estimates of dividends through FY 1986.

DoD reviewed the first report and provided comments to GAO on December 2, 1985. DoD records showed that lower inflation, after the budgets were submitted to the Congress, provided about $28 billion in savings for the years FY 1982-1985. The Department provided complete accountability of those excess funds in its response to GAO.

We have made a quick review of the second GAO report and checked the calculations. Using the GAO methodology, our analysis shows that incremental estimates of inflation savings since September 1985 of $2.5 billion in the non-major weapons sector and $5 billion in major weapons are consistent with the Administration's revised economic assumptions. It is important to note that most of these savings are a function of lower projected inflation rates for FY 1986 through FY 1991 and not the result of revised actual rates for FY 1985. The GAO savings calculations are based on the following inflation rates:

FY	GNP Inflation Sept 1985	GNP Inflation Feb 1986
1984	3.8	3.8
1985	3.7	3.6
1986	4.4	3.2
1987	4.2	4.1
1988	4.0	3.9
1989	3.7	3.4
1990	3.4	2.9
1991	3.4	2.3

The point is not whether the inflation rates support the savings--the arithmetic shows that they do--but that these savings, and more, have actually been used by the Congress. Since the September 1985 report, the Congress transferred $840 million from the procurement accounts, which had benefited from inflation dividends, to underwrite pay increases and additional operations and maintenance expenses in the FY 1985 Supplemental Appropriations Act; reduced the DoD FY 1986 procurement appropriations by $1.036 billion in inflation fairness adjustments (to account for the lower GNP deflator), and $1.7 billion in inflation premium adjustments (to account for the 30% special commodity deflator). Other congressional reductions not identified as inflation cuts may have resulted from the trend as well. In total, the Congress cut $24 billion from the FY 1986 request. The reductions for inflation are not always explicit but are inextricably linked to other cuts. However, repricing the DoD appropriations, using the GAO procedures, would result in a conservative estimate of an additional $2 billion for lower inflation.

Section 1407 of the Defense Authorization Act for FY 1986 requires the Department to report to the Committees on Armed Services of the House and Senate, an estimate of funds available for obligation which may be in excess of amounts needed to carry out the programs for which the funds were appropriated. On March 3, 1986, the Secretary identified $2.2 billion that has been identified as savings and funding sources for higher priority program requirements. These funds include $401 million to help absorb pay raises; $508 million in reprogramed funds to be used for higher priority programs; $802 million in excess stock fund cash, and $523 million in industrial fund operations. All these amounts were reapplied to the program requirements in the FY 1987 budget.

On page 2 of their report, the GAO acknowledges that they could not determine the precise amount of unneeded funds still available in DoD. The GAO reports that during FYs 1982 through 1986, Congress repeatedly reduced DoD budget requests; and although some of these reductions were related to inflation savings, few reductions were linked to inflation in any official congressional statements, except in FYs 1985 and 1986 when the Congress clearly recognized inflation savings as a source of appropriation reductions.

The foregoing demonstrates that $5.6 billion of the $7.5 billion identified by the GAO has already been taken by the Congress and the remainder is before the Congress for consideration in the FY 1986 column of the FY 1987 budget. The savings can be used only once. The Administration strives to produce defense savings by reducing inflation and improving management. However, continued cuts will inevitably result in defense levels below that desired by the Administration and the Congress.

The attached table provides a summary of how the inflation savings have been utilized.

INFLATION SAVINGS in DoD SINCE SEPTEMBER 1985
($ in Billions)

	FY 1982-1986
1. Congressional Financing of FY 1985 Supplemental	0.8
2. Congressional cut for Inflation Fairness	1.1
3. Congressional cut for Inflation Premium	1.7
2. Other Congressional cuts for Inflation (Estimated)	2.0
3. DoD Reapplied Savings in FY 1987 budget	2.2
TOTAL	7.8

REPROGRAMMED FUNDS

Senator **Proxmire**. You say they would total $7.5 billion or more?

Dr. **Wade**. I am saying as we look to the future, we have this money that is saved, this money is reprogrammed in other accounts with the approval of the Congress. If it is less than $4 million, we can reprogram the money within that account or elsewhere.

There is interaction with the Hill. It does not end up being free money that we have over and above what we planned with approval of Congress.

I also note in past years, particularly in the late 1970's when inflation was just in the other direction, then we had to come back either through a supplemental or, in effect, eat that money with all the inefficiences that that entailed.

Senator **Proxmire**. In past years you had to come back and get additional money and you got it?

Dr. **Wade**. Yes, sir.

Senator **Proxmire**. Now, the other way, you ought to give the money back to us?

Dr. **Wade**. We work with the Congress and apply that money elsewhere and that is done with the approval of the Congress. I think it works both ways.

Senator **Proxmire**. Finding money elsewhere. You were able to spend more money than you asked for originally; is that it?

BUDGET SHORTFALLS

Dr. **Wade**. No, sir. It makes up for shortfalls in other areas that need attention.

Senator **Proxmire**. Shortfalls from what?

Dr. **Wade**. For example, in the area of Milcon when you look at the 5-year projection, you have only projections in the sense of what these buildings will cost. There has to be some reprogramming there. You save money in one area and you can apply it where it is needed in another.

Senator **Proxmire**. In terms of what the Congress allowed, there was a windfall.

Are you telling me that you were able to do things that the Congress did not contemplate because you got that windfall?

Dr. **Wade**. For example, Congress last year reprogrammed $6.3 billion which was caused by higher than expected inflation. So, they reprogrammed the money. They reprogrammed the money in the direction that the Congress basically felt the money should go.

I think in that sense the program is being managed and managed with the approval of the Congress.

REDUCED OIL PRICES

Senator **Proxmire**. In the inflation windfall in 1986 GAO did not include in the $7.5 billion figure the excess inflation funds that you accrued as a result of dropping oil prices.

What kind of fuel dividend do you project in 1986 as a result of fuel prices being lower than you projected last year and with fuel prices dropping significantly, there will obviously be excess funds.

Can those funds be returned to the Treasury?

Dr. WADE. I do not have the numbers here, but I can provide them for you.

Senator PROXMIRE. Can you give me a ballpark estimate?

Dr. WADE. I do not have that with me.

Senator PROXMIRE. Can you tell me, to the extent there are excess funds, can you tell me whether or not those funds will be returned to the Treasury?

Dr. WADE. First of all, in the program we put together for the 1987 program that we presented to the Congress, we did project savings a good deal more than we saw last year. So, in part, this has already been taken into account.

Senator PROXMIRE. In what part?

Dr. WADE. We made our best estimate of what the savings would be as we looked to last year.

Senator PROXMIRE. If you were able to call the drop in oil prices, you are smarter than anybody else. You could have made a lot of money outside of your job if you were in Wall Street.

Dr. WADE. Yes, sir.

Senator PROXMIRE. Do you say you foresaw that drop in oil prices?

Dr. WADE. We did not see it as far as right now. We made a projection of significant savings from where we were last year.

OVERESTIMATED INFLATION RATES

Senator PROXMIRE. Overall GAO estimates that a whopping $39 billion is piled up in DOD from fiscal years 1982 to 1986 because of overestimates of inflation during that period.

What has happened to that money?

DOD in the January 27 report to the Congress accounts for $28 billion of the inflation fund, fiscal years 1982 through 1985.

What has happened to the other $11.5 billion that GAO says is still around the Pentagon?

Dr. WADE. I have not seen this report and read it in detail, so I really cannot describe some of the detail behind that comment.

On a year-by-year basis the Congress and the Department of Defense do review these inflation calls either up or down. Monies are reprogrammed with the approval of the Congress. This is a year-by-year working relationship.

I do not think the bottom line implication of that statement is true.

Senator PROXMIRE. As I understand it, the Department of Defense is not using any special inflation index for fiscal 1986. In the past you budgeted for inflation at 130 percent. In other words, 30 percent above the GNP deflater under the assumption your prices would be higher than the GNP deflater shows.

As we have seen over the past 5 years that has provided an inflation windfall for you because inflation was not as high as forecast.

Now, as I understand it, you are just using the GNP deflater to budget for inflation in fiscal 1986, I presume without the 30-percent addition.

Is that going to be a permanent arrangement? Are you going to use just the GNP deflater in future budgets to counter inflation or do you go above that?

Dr. WADE. I do not have the specifics. That is a comptroller question for the budget. I would prefer to provide that for the record or provide that at the end of the day. I do not have the answer to your question at this time.

Senator PROXMIRE. Does it not seem logical—you have had this windfall year after year after year, that 130 percent, would it not be sensible at least to moderate that some?

Dr. WADE. First of all, I do not think it is a windfall. It is a success story. We interact with various committees of the Congress in real time. I think the comment about a windfall is wrong.

Senator PROXMIRE. GAO is wrong and the reason inflation has been so favorable is because of the competent policies of the Defense Department.

Dr. WADE. I think the description of the word "windfall" is not correct, sir.

Senator PROXMIRE. I think a lot of the Defense Department and I admire you, but you cannot convince me you have been so efficient over there that you have been able to achieve that through efficiency rather than through economic development over which you cannot have control.

DEFENSE CONTRACTORS

Our State is typical of many other States. We do not have many basic defense contractors. We do have a lot of small firms that have tried to do business with the Department of Defense. I am constantly getting letters from these small firms complaining that when they bid on defense contracts or asked to bid on defense contracts, they face such a mound of paperwork in the application that their administrative cost of fulfilling the contract cancels out any profit they would make on the contract.

These small firms say, "Forget it; we will not do business with the DOD." I have had this complaint from small companies that have been asked to supply such mundane things as rifle bores.

Are we freezing out a lot of good ideas and cheaper prices of these small companies because of paperwork and is there not some way you can handle it to give them an opportunity and save money for the taxpayer?

Dr. WADE. I share your concern and I have the same input coming in my office. One is the amount of paperwork involved and, second, the concern toward the so-called intellectual property rights.

We are trying to break out the piece parts for competition, at the same time trying to protect and make sure the best intellectual ideas from small business are allowed to come into the Department of Defense.

Our streamlining initiatives are attempting to address that matter. I do not think we have gone far enough. It is a very high priority in my office. I would appreciate any help you can give me because it is an important element.

INFLATION DIVIDEND

Senator STEVENS. I am sure my friend from Wisconsin will not mind my going into this, but the so-called inflation dividend that the GAO has outlined of $32 billion from fiscal years 1982 to 1985, and $39.5 billion from 1982 to 1986 is an identification of the amounts that were in the budget on a projected basis for inflation as compared to the actual results of inflation during the same period of time.

Now, this committee has taken $193 billion out of the budget during the same period, $35 billion last year alone.

I do not argue with the GAO report in perspective. It identifies the problem.

I remember during the Carter years I objected to what the Carter administration was doing, securing approval of systems on an underestimate basis and sometimes coming back in for supplementals which exceeded the original amount of the appropriation because they were totally ignoring the inflationary spiral they were in.

Taking the tank, for instance. It was estimated at $427,000 a copy. By the time we got it off the line, it was $2.1 million. Now, that concept led to the problems we had in the deficit area. This report says how much in terms of projections was in error.

In terms of the oil prices, you would have to have a Ouija board to tell us how to follow the price of oil. If you can tell us how far down it is going before the meeting is over, I think the whole world would like to have the answer.

INFLATION ADJUSTMENT

Last year alone we reprogrammed in conference, Senator Proxmire, that inflation adjustment. The year before, too. I think we had a battle with our friends in the House who wanted to take it out.

We reprogrammed it to other programs and still cut the budget by $35 billion. If people look at this dividend concept that the GAO has come up with and not realize that we have already spent the check, there are going to be some people who were misled about this budget this year. That money is no longer there to spend.

We have committed it. We have reserved some of it for the future, but we have committed most of it. It is not a dividend that is there to spend.

I am told that I misspoke. It was 1981 to now and it is $193 billion in the 6-year period. As far as the budget is concerned, we have already taken those savings. We took them in terms of our adjustments last year and we will take them if there is additional inflation reduction.

We ought to take them. We ought to thank God for the President's policies that brought about the inflation recision, of holding down this inflation line, and we are no longer in a 13-, 14-, 15-percent inflation cycle.

I hope that we can keep this to the point that if anyone starts looking for that money this year and saying they are going to turn it back to the Treasury, I am going to tell them the check is in the mail.

Dr. WADE. Yes, sir.

Senator PROXMIRE. Would the Senator yield?

I just want to read one paragraph from your report:

> We could not determine the precise amount of unneeded funds still available in DOD. Fiscal years 1982 to 1986 have routinely reduced the budget request. Although some of the reductions were related to inflationary savings, few reductions were critically linked to inflation in any official Congressional statement.

We have the statement from the chairman. He is a very competent chairman, he is on top of all these things. We certainly do not have a specific analysis to show that the reductions that we made were the result of inflation or the inflation dividend was ever repaid.

Senator STEVENS. No one came to interview us. We would be glad to show the figures of how we got the money which we reallocated. It was in the notes in the conference.

I wonder whether we should not go back to recording the conference meetings that the law requires. The law requires the Congress to record conferences. The House will not do it. If you did it, you would have the record they need, but we pointed out where the money came from. We kept systems in the budget that otherwise would have been cut out because of the adjustment for inflation.

The difficulty is, again, we are paying for items which have inflated values as compared to their authorization days. Even with the low rate of inflation, there is still inflation.

Dr. WADE. Yes, sir.

Senator STEVENS. We have to adjust each year. I will be happy to go over that with you and with the GAO.

I do not argue with the figures that were in the budget originally. I do argue that there is any dividend left there. It is misleading right now in the budget process for people to say, "Let us turn back the $7.5 billion until we get the actual projections of what the costs are now in terms of increased acquisition cost."

Even though inflation is down, acquisition costs are going up because of reasons unrelated to inflation.

Do you not agree with that?

Dr. WADE. Yes, sir, Mr. Chairman, I thank you for your help.

I still would like to stand by my word and that is the use of the comment "windfall" in the GAO report is not correct.

Senator STEVENS. I agree.

Senator D'Amato.

Senator D'AMATO. Thank you, Mr. Chairman.

First of all, let me say that it is good to see Secretary Wade here. I think he has done an absolutely outstanding job. I want to thank him on behalf of my office and for your cooperation I am deeply appreciative.

PREPARED STATEMENT

I have a statement that I will ask be placed in the record in a minute, Mr. Chairman.

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I thank Assistant Secretary for Acquisition and Logistics James Wade for coming here today. I have worked closely with Mr. Wade, and I appreciate this opportunity to hear his testimony.

The Defense Department signs millions of contracts each year. To monitor this activity is a herculean task. We must, however, have control over this process, or abuses of major proportions can, and will, occur. Congress and the Defense Department have changed defense procurement practices over the last few years. More emphasis is placed on competition and on fixed-price contracting. Such changes were necessary and, I believe, have saved the taxpayers billions of dollars. But these procurement changes are not without their problems. I look forward to the testimony of Assistant Secretary Wade to hear his future assessment of defense acquisition and logistics.

In a request I made to the General Accounting Office, the Comptroller General recently provided me with a study on DOD initiatives to improve the acquisition of spare parts. Overall, the report stated that DOD was working toward spare parts procurement reform, but that considerable work remained to be done. For the period 1981 through 1983, GAO is 95-percent confident that between 38 and 50 percent of the contracts were awarded at various sites without satisfactory explanations of the price increases. The statistical sample examined in this study covered contracts which showed a 25-percent increase in price or more. Spare parts increased from 12.3 percent of the Defense Department's total procurement in 1983 to 14.5 percent in 1984.

Admittedly, DOD has taken action to resolve some problems. The Army has 64 spare parts review initiatives; the Navy has the Buy Our Spares Smart [BOSS] Program consisting of 102 initiatives; the Air Force, which was a leader in recognizing the spare parts acquisition problem, formed the Air Force Management Analysis Group which presented 178 initiatives to improve spare parts acquisition; and the Defense Logistics Agency began the Competition Advocacy Program and has reorganized and established the Spare Parts Pricing and Competition Office.

I believe that DOD is making headway in ensuring that the prices obtained for spare parts are fair and reasonable, but there is still far to go. I look forward to working closely with you to continue this most important battle.

Thank you, Mr. Chairman.

PROCUREMENT DURING 1981-83

Senator D'AMATO. I would like to touch on one thing.

One of the GAO reports that came out on March 11 covers the period 1981 through 1983 on procurement. I do not know if you have seen it. This came out on the 11th. It basically says, Mr. Secretary, that you have come a long way, that there have been some improvements. It states the horror stories of the 25-percent increases where no one had any idea why this happened; perhaps due to lack of some competitive bidding.

Let me summarize:

While progess varies among the services in DLA, it will be some time before an overall assessment can be made; we have some encouraging facts. You are aware of the pricing problem either through media reports or meeting with Inspector General personnel. Nevertheless, DOD should strike for a cost-effective permanent solution.

The question is: How far are we away from having what you would feel comfortable with as an adequate spare parts acquisition program, not just the policy, but a program that is really implemented?

That still seems to be the contention that, although there is progress, there is a lot more that has to be done.

Dr. **Wade**. Thank you, sir, for your comments.

I would like to address that question in two parts.

One is that the spare parts program and the so-called horror stories that have followed were a small part of the overall DOD acquisition improvement effort. The problem we have here is in areas that the American people can relate to.

I think when you look at the number of the dollars involved vis-a-vis the $130 million procurement program of the Department of Defense, it is a relatively small piece. Again, it is an important indicator of how well we are going to do as we fix the past problems and look to the future.

I think the help the Congress has given us since 1983, both in the context of new equipment, namely computers and modern management systems, and the added people force on the order of 5,000, although it will take time before we see this fully implemented, is well underway and I think we will be seeing even now in the next couple of years some very major improvements in our management of the spare parts program.

I think, though, that the important aspect is to gain the confidence of the American people that we know how to do this job. I think in the main reports, like the Packard Commission and the kind of efforts I have underway of trying to get at the systemic problems overall and thereby reach the American people and have them believe that we really are managing this amount of money and managing it well, some of these areas will take time.

If they see us putting them into effect, even starting to work on these problems, I think we will see this mood change. Over the past 12 months we were at the bottom as far as our relationship with the American people. Confidence was not there.

People felt we were not spending our money wisely. I think we have turned the corner on that. I think now the implementation of many of these new areas of the Packard Commission will be the bottom line on how well we do this job.

SPARE PARTS

Let me summarize on spare parts. We have new initiatives underway. We are seeing the fruits of these initiatives. We saw $2 billion in cost avoidance in the last 12 months. Again, that is only a piece of the problem. We have to solve the spare parts problem because the American people watch this area. The press watch it. I think it is an indicator of the structural problem in DOD that we are working on at this time.

Senator D'AMATO. Thank you very much, Mr. Chairman.

Senator STEVENS. Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

PROCUREMENT PROCESS

I have read in the press that the Department of Defense is making efforts to streamline the procurement process and they have less bureaucracy with greater power given to the program manager. This has been a recommendation, as I understand it, of the Packard Commission.

I remember—I guess it has been 3 or 4 years ago now—the Secretary of the Navy, Mr. Lehman, came by to see me at the height of some controversy involving perhaps Navy procurement. It was a controversy or some discussion in the Congress about imposing another board of review or something relative to naval procurement.

The Secretary made a very convincing case. He said we do not need another board to diffuse the responsibility. What we need is individuals down on the ground managing the program, let them have the responsibility, and if they fail, let us fire them, and if they succeed, let us reward them. That, I thought, was a pretty convincing case.

Now it seems to me that the bureaucracy continues, however, to grow and the number of employees continues to get larger.

What actual concrete steps have been taken to shorten the lines of communication and bring the program managers in the positions of responsibility down where the rubber meets the road?

Senator STEVENS. Will the Senator yield for a comment?

I want to apologize, Dr. Wade. I have been called to a leadership meeting. I want to go over there.

I will ask Senator Andrews if he will chair the balance of the hearing. I know he will be going into some matters with General Rider after your testimony is finished.

Dr. WADE. Thank you, sir.

Senator, I think we have been doing well for the last couple years in facing up to this problem. One area has been recognized by the Packard report, that of streamlining the requirement and the program specifics, particularly at the front end of the program.

Our direction now has been to minimize the detailed specs that are put in the front end of the acquisition process and move toward more performance criteria and then as the program proceeds downstream, you then fine tune the needed specifications as we go into production.

We started on that 15 months ago. It takes a long time for a process of that kind to get through DOD, but I think that is showing signs of success right now.

Secretary Lehman I think has put added emphasis on the importance of making sure those in the acquisition side receive the kind of promotions that need to be given in order to bring people into this side of the equation.

Mr. Sculley is doing the same thing in the Army process and I am sure the Air Force is. I think there are lots of initiatives underway. Again, they have been helpful. I think we have a long way to go to really fulfill the full impact of what we can achieve in this regard.

My bottom line has been, and will continue to be, that if you have the highest quality technical people managing the program, you can then let up on the numerous regulations and let them drive the system as true managers. We are headed in that direction.

I think we will need the help of the Congress to overcome some of the hurdles in front of us as far as regulations are concerned.

DOWNGRADING OF POSITION

Senator SASSER. Dr. Wade, this blue ribbon report on defense management that I am confident you have read indicates that your position as Secretary for Acquisition and Logistics might be downgraded.

As I read this blue ribbon report, there is going to be an effort or recommendation made to move more acquisition power to a new Vice Chairman of the Joint Chiefs of Staff and to the theater commanders themselves.

How would your role change under reorganization and would you continue to be the civilian overseer of acquisition if these recommendations are implemented?

Dr. WADE. Well, there are two parts to your question, Senator.

No. 1 is the reference to the Vice Chairman and the field commanders. The recommendation there is to enhance their input, their participation in the requirement, the front end of the process.

I think overall we suppoort that, but the Department of Defense has been doing a significant amount of work in that direction already. We are prepared to go as far as we can in the sense of making that as viable a front-end planning process as we can make it.

As to the makeup of the overall acquisition regime in the Office of the Secretary of Defense, I would prefer not to answer questions about what it means to me. I think the right answer is what kind of improvement in the Office of the Secretary of Defense can be made in order to improve the overall efficiency of acquisition management.

The Packard Commission recommends a person who spends full time overseeing the overall process of acquisition and the recommendation is for an Under Secretary of Defense for Acquisition at a level two. The recommendation there is to enhance the overall authority of this individual.

So, one can argue their cup is either half full or half empty. It is really saying we should enhance that aspect of the job and I fully subscribe to that.

Who and how it finally flows when they finish the report next June I do not know, but I think there is some clarity that needs to be made in the sense of the overall makeup, and the Secretary of Defense is addressing that.

I think the bottom line is to understand that you need a full-time person working the problem of acquisition, providing the centralized direction and the needed execution of the Department of Defense.

I fully subscribe to that recommendation.

COMPLAINT CATEGORY

Senator SASSER. Now let me get into the category of complaints here, Dr. Wade.

The Department of Defense Inspector General conducted an audit of DOD management of value engineering programs. In that audit the I.G. was critical of DOD's handling of programs, stating that it had not been fully staffing the value engineering program or promoting value engineering to obtain savings.

Now we have in my State a military apparel manufacturer who wished to make a change with regard, as I recall, to a cargo pocket on combat uniforms. He even came up here and took an hour of my time demonstrating to me how you fill up these cargo pockets with sand and if we followed his approach in the manufacture, the cargo pockets would carry more and they could be constructed more efficiently and eliminate a number of processes.

He calculated it would save DOD $5 billion in the purchase of these trousers. I do not know that we ever got the value engineering people to fully focus on this whole problem.

Have the recommendations of the I.G. been implemented with regard to value engineering?

It appears to me that might be an area where substantial savings can be made.

Dr. WADE. Senator, I do not think there is one area that we are giving more attention to in the Department at this time than value engineering. We address it at my level with my counterparts in the services. Secretary Taft has had it addressed twice in the last 6 months as far as the council looks at management techniques in the Department of Defense.

I signed out a memorandum 2 days ago to the Department requesting that more front attention be given as far as using criteria in making up the acquisition of our new systems. It is a success story. We are putting attention to it. It takes time to get it down throughout the many facets of the Department.

I think if you would like me to provide some detail on that, that you would agree that it is one of the very highest acquisition elements in our overall program.

VALUE ENGINEERING PROGRAM

Senator SASSER. I think that could be a very important source of savings. I do hope that it is being given substantial emphasis.

These military apparel manufacturers in my State advise me that the American apparel manufacturers have recommended that there be a review board with regard to value engineering to monitor the DOD's value engineering program.

Do you know the status of that recommendation at the present time?

Dr. WADE. No, I do not; but I would offer the observation from my perspective and that is that we are giving this whole area the highest level of attention through councils and review boards.

We also believe that there are additional savings of significant numbers in front of us. The I.G. report is backed up by a perception of the problem. I think we are giving it the necessary attention right now.

The followup is really all that is required to make sure it gets implemented into the system.

Senator SASSER. Would you furnish for the record or ask one of your colleagues, to furnish for the record the status of the recommendation for a review board?

Dr. WADE. Yes, sir.

[The information follows:]

VALUE ENGINEERING REVIEW BOARD

In a letter of August 19, 1985, we replied to the American Apparel Manufacturers Association's letter to the Defense Logistics Agency requesting that a review board be created to monitor the Government's value engineering change proposal [VECP] activities. Our reply indicated that a review board is not necessary at this time as VECP activity is already closely monitored and a number of formal and informal appeal mechanisms are already in existence. Some of the companies in the association have been able to change a rejection to an acceptance through the use of these informal appeal procedures. In addition, several hundred valued engineering advocates, who are listed in the DOD VE Points of Contact, are working to improve VECP acceptance rates. The DOD VE Committee prepares, for semiannual management review, summary statistics of accepted and rejected VECP's The Committee is also encouraging the review by a higher headquarters in each DOD component of some or all rejected VECP's.

RETURN ON ASSETS STUDY IN DEFENSE CONTRACTING

Senator SASSER. Mr. Chairman, I see my time has expired.

Senator ANDREWS [presiding]. Thank you, Dr. Wade.

Before you leave, I would like to ask Secretary Sculley and Secretary Pyatt to come up. You had better bring a chair up, too.

Secretary Wade was accompanied by Jay R. Sculley, Assistant Secretary of the Army and Everett Pyatt, Assistant Secretary of the Navy.

The reason I would like to have you both there is because something has occurred which is intriguing to me about the return on assets study in defense contracting.

Secretary Wade, your Department of Defense financial investment review found profits on defense sales to be just slightly above the average of commercial experience. A later Navy study using return on investment assets for a measure found the defense work was almost twice as profitable as commercial work.

How do you explain these two pictures and which one is the more realistic study of the defense industry and why?

Mr. PYATT. I think we have gotten caught up here in some financial jargon. The study shows substantially the same results in returns on sales for both. Defense is slightly more profitable than the commercial sector and they also both show that the return on assets employed is far more profitable in defense than in the civilian sector.

Senator ANDREWS. The Navy study then found defense contractors averaged 26.7 percent return on assets compared to 10.7 percent for commercial business.

The DOD study I am referring to reports 9.2 percent profit sales on defense versus 8 percent on commercial work.

You are saying they are different studies because one is return on investment and the other one is return as a percentage of sales?

Mr. PYATT. Yes, sir. In the Navy study, we did the return on sales and came up with substantially the same number.

Senator ANDREWS. So, there is no difference. I was looking if there was something different in the way the Navy was approaching it than the Air Force and Army that gave us this differential.

Dr. WADE. First of all, it is important to understand the defense study is a DOD study. The participation entailed not only OSD, but the three services. The methodology employed in the Defense study is quite different.

The most important thing is to understand and appreciate the methodology used because that made the differences between the two studies. The DOD study was a much more in-depth study that addressed not only profit, but many of the policies associated with how we go about determining profit.

As has been said here, the bottom line is, although the differences are important, that the DOD kind of business has been ending up with higher profits. That is important to understand because it gives you policy direction in the future in reference to how we conduct our profit policy.

Again, it is important, that when we do this it should be done on a DOD-wide basis rather than individual service basis.

FEDERAL LAW REGARDING PROCUREMENT

Senator ANDREWS. The Packard Commission statement said Federal law regarding procurement has become overwhelmingly complex. Each new statute adopted by Congress has spawned more administration regulation. As laws and regulations are proliferated, Defense acquisition becomes ever more bureaucratic and encumbered by unproductive layers of management and overstaffing.

It should not be that way and does not have to be that way. We have to establish short unambiguous lines of communications among all levels of management with small staffs of highly competent professional personnel emphasizing innovation and productivity.

Similarly, we have to establish through our warranty system some guarantee that the equipment used by our military members will perform and remain functional when the soldier's life is on the line.

Do you have any comments on this Packard Commission statement, the one I just related to that says we have to banish administrative regulations?

Are we overregulated in an attempt to get at these high-placed hammers to the point where, as Senator McClure pointed out, going through procurement which is supposedly the cost savings way actually ends up adding more cost than if you just went down to the neighborhood hardware store?

Dr. WADE. The answer is yes, sir, because we are reaching the point where lawyers and accountants are more important than scientists and engineers who are the ones really needed to develop new weapon systems.

The direction we take to improve ourselves should have the first priority, that is, to help us to get out from under the myriad of regulations which are making our job much more difficult than it should be.

Senator ANDREWS. When we put the warranty law on the books, we thought it would simplify things because it parallels what we do in commercial sales. When airlines buy jet engines, they get standard warranties.

We also thought we would get into the situation where we use the innovative ability of the American contractor who knows best how to make a helicopter fly than some design specialist and because he was backing his words up with that warranty, he would probably have a little bit more freedom to move ahead.

I cannot imagine that Lockheed would have designed the C-5 with that wing spare that failed if they had not been told by the Pentagon to take some weight out of that plane. They did not have a performance requirement. That is what we are looking for.

Should that not give us the ability to get away from this layer after layer of bureaucracy that is taking so much time and costing so much?

Dr. WADE. That is a helpful step, yes, sir.

Senator ANDREWS. Finally, Secretary Pyatt, one thing along that line.

WARRANTY PROCESS

I asked Dr. Wade earlier. You and I have visited the last 2 or 3 years regarding the process of the warranty.

How is it working?

Mr. PYATT. I always have been a supporter of that concept.

Senator ANDREWS. You were an initial supporter in the Defense Department.

Now you have had it around for a while, do you still have that feeling?

Mr. PYATT. Yes. In each individual case you sometimes have problems that you need to solve. You sit down, work at them, and solve them. Currently we have a little dispute going on with airplane manufacturers. We want to extend our warranties to a longer period of time. They want more money and we will not pay.

Sooner or later I guess we will have to come to some accommodation. We pay a lot of money for quality and we ought to get it. I think it is very important to continue negotiation until we get it.

I have found the existence of the law very helpful to our negotiators to get what they ought to get. It has been a beneficial endeavor.

Senator ANDREWS. You say problems with airplane manufacturers. Does it not eventually get down to the point you have to tell them, look, if the thing will not fly for 5 years, it is not worth buying?

Mr. PYATT. We have not signed a contract.

Senator ANDREWS. You are moving in the right direction.

Mr. PYATT. We took away one layer of bureaucracy in the Navy, the whole Naval Materiel Command. You talk to our program managers in some of these areas to see from their perception as it is from mine, we are getting decisions quicker, we are getting things aired on the table quicker.

The Secretary has better access to information that he has to have for the decisions he has to make and reports. I think it is an important move.

Our next step will be to try to eliminate internal regulations.

Senator ANDREWS. Thank you very much. We appreciate your appearance.

SUBMITTED QUESTION

We do have an additional question from Senator Proxmire which we ask you to answer for the record.

[The following question was not asked at the hearing, but was submitted to the Department for response subsequent to the hearing:]

QUESTION SUBMITTED BY SENATOR PROXMIRE

PACKARD COMMISSION REPORT

Senator PROXMIRE. Dr. Wade, the Packard Commission, in its interim report, had three criticisms of the current DOD acquisition process: (1) that requirements for new weapons systems have been overstated, and this gold-plating is deeply imbedded in our current system; (2) that there's little operational testing and it's done too late in the acquisition cycle; and (3) that the services frequently duplicate each other's advanced development efforts and have balked at new ideas.

What's your response to these criticisms? Do your current programs reflect gold-plating, too little operational testing, and duplication of effort?

Dr. Wade. These are problems we continue to work, but I would agree that we can do more.

Our streamlining initiative is directed toward the issue of overstated requirements, and we are trying to ensure that only essential requirements are placed on contract. Operational testing is now being overseen by the new Director of Operational Test and Evaluation. I think this function is taking hold, and there is also the legislation which requires OT&E to be completed and certified by the Director before we enter high-rate production. On the issue of duplication and, conversely, joint service programs, we have the Joint Requirements and Management Board which resulted from the recommendations of the Defense Science Board a few years ago. The Package Commission recommendations regarding strengthening JCS could be an important step toward more effective joint program management.

In general, these are problems which you must continue to work, and which will never be totally completed. So I think our ongoing efforts are helpful, and we will continue to work these areas with renewed emphasis as a result of the Packard Commission's recommendations.

NONDEPARTMENTAL WITNESS

G.W. RIDER & ASSOCIATES

STATEMENT OF MAJ. GEN. GRAHAM RIDER, U.S. AIR FORCE (RETIRED)

WARRANTY APPLICATIONS

Senator ANDREWS. We will now receive additional testimony focusing on applications of warranties in defense contract from retired Air Force Maj. Gen. Graham Rider. General Rider is now a consultant on warranties in defense contracting.

General, we will be delighted to hear from you. The main thing we want to do is to get your testimony in the record so that we can refer back to it as we move this bill through the floor.

We would appreciate it, of course, if you would summarize it, whatever way you want to do it. The entire statement, of course, will be made a part of the record just as though you uttered every word of it.

General RIDER. Thank you, Senator. I have submitted it.

In brief I would agree with what you have heard that the warranty law is most helpful, that it has been a constructive step forward in the acquisition process.

I would like to add to that that most of the industry that I am familiar with has a very, very good positive attitude toward this. They do see it as a competitive tool, in the military again as well, generally speaking, a very positive attitude toward not just the warranty itself, but the potential it has for improving quality in weapons acquisition.

There are a number of things I would like to bring before you for consideration. I have done so on the report. I will summarize them briefly for you. One is the requirement in the law for warranting essential performance characteristics in the way of operating capability. I have yet to meet anybody who really understands that requirement.

To most people an operating capability is the rate of fire of a gun, the altitude at which a helicopter will hover, the frequency of a radio. These are generally not warrantable characteristics. If the radio does not operate on the frequency specified, you do not accept the piece of equipment for delivery.

I would recommend reconsideration of the requirement for performance characteristics in the operating capability.

REQUIREMENT FOR PERFORMANCE CHARACTERISTICS

Senator ANDREWS. Let me point out why we did that since we are on that comment and then let you comment on it.

When we sit on this side of the table, we have no way of ascertaining whether when the Defense Department comes up and says they want a new weapon system, it is significantly better than the weapon system it replaces. Many times we envison billions of dollars of the taxpayers' money and much valuable time to buy a new tank, a new ship, a new plane that turns out to be a dud.

The DIVAD was an outstanding example of that and it was canceled after we spent billions of dollars and we lost valuable time to get that weapons system with those performance characteristics.

If we can get a warranty that says that plane will fly so fast and so high or that particular vehicle will be able to operate for so many hours or that particular personnel carrier will handle a round from a certain gun that the other side had, that gives us a yardstick without which we cannot operate.

General RIDER. I understand that. I believe those considerations, however, are adequately covered by the engineering design and manufacturing process warranty. There the manufacturer warrants it is built to the specifications.

FIXES ON AIRCRAFT

Senator ANDREWS. But the experience that this committee has had is that that simply does not work. For the C-5 fix when I became a new member of this Defense Subcommittee we were given the bill for $1.4 billion to fix those wing spars that were cracked.

I cannot imagine that if Lockheed engineers knew that they were being put into a warranty confirmation, they would not have insisted on not taking the weight out of that wing spar.

How else do we get a performance?

General RIDER. I think you are quite right, Senator.

Senator ANDREWS. This happened before, not to blame Lockheed, but the prior model of the B-47. Someone in the Pentagon got the idea to take some weight out of the wing spar and they took some weight out and they failed and they are parked in the desert right now.

General RIDER. You have the understanding correct of what happened. In that particular instance the buyer, the Air Force, decided to specify a lighter wing spar in order to achieve other operating capabilities.

Senator ANDREWS. If there had been a warranty relationship, the company manufacturing that particular airplane would have said, "No way, because it is not going to fly the requisite number of hours."

General RIDER. Or, I might submit, would have renegotiated the warranty with the buyer.

Senator ANDREWS. If they renegotiated the warranty, that would have been a red warning flag so those of us on the committee would have seen and stopped action long ahead of it.

How else do we get that kind of protection?

General RIDER. There are any number of ways to get the protection, but you are asking for a great deal of work in terms of looking at the specifications of every weapon system acquired under this process. I realize you are ready and willing to do it.

PROBLEMS WITH DIVAD

Senator ANDREWS. Think of the work we have when we get these lemons that come down the pike. We went back and forth with the Defense Department at the same table you are sitting at talking about the DIVAD, how wonderful it was going to be.

Then they took some tests. It would not start in cold weather. You had to have a blower on the computer to get the guns to work. They had to be on 7 or 8 hours before the computer would work in cold weather.

Then the guns often were pointed more than 180 degrees different than they should have pointed, hardly reassurance to troops in the rear ranks.

How do you correct that without some type of basic warranty?

General RIDER. The basic warranty is quality assurance of the manufacturer. I do not believe the warranty per se will assure you of achieving the operational capability promised. That is a technological and engineering development task.

The Air Force did get what it paid for in the C–5. It got what it asked for in the C–5. One presumes that that was all prestudied, analyzed, and approved.

Senator ANDREWS. The Air Force got what they asked for, but I do not think the taxpayer got what they thought they were going to get.

It would have been far better if we had had that extra safeguard of having the engineers and the design people in the various manufacturing companies called into the equation to make sure what they produced actually worked the way it was supposed to work.

In this case it was not the responsiblity of the manufacturers, it was the responsibility of the Defense Department, and we got what we asked for, but it was not what we wanted, it was not what this committee wanted.

WARRANTIES OF OPERATING CAPABILITIES

General RIDER. I, nonetheless, do see some difficulties in the industry as well as in the military organization of defining these operating capabilities and then properly warranting them.

Warranties traditionally in commerce apply to the reliability and maintainability characteristics which come under the performance warranty and which I believe are very properly stated in the law.

These are the kinds of things that we really do want warranted. How good is this in a quality sense in terms of how long will it last and when it does fail, how quickly can we get it back into commission?

Those kinds of characteristics should be warranted and they are to me the most positive aspect of the law.

A second comment I have about the law is that the waiver process delegates real responsibility and authority to a level in the Department of Defense where waivers may be granted.

However, then it returns the authority back to Congress because of the requirement to have that waiver reviewed by four separate committees in Congress.

I believe that the officials responsible for the waivers view themselves as having the responsibility to grant the waiver, but not the authority because of that reason of new requirements. To some that is a good example of what has been called micromanagement by Congress.

Third, in your activities to reform defense procurement, I think you should be aware of the fact that it is quite easy to establish conflict because of conflicting objectives of law.

COMPETITION IN CONTRACTING ACT

A difficult to manage conflict in the warranty area is with the Competition in Contracting Act. The Competition in Contracting Act, if extended to initial spares and support procurement, would create a situation where parts not certified or qualified by the original equipment manufacturer may be introduced into the equipment during the warranty period.

In short, warranties obtained by the services are going to look very much like the warranty you and I can obtain on a vehicle. If we buy a Chrysler, we will get the 5-year/50,000-mile warranty, but it will say very clearly that the warrany remains valid only if we use Chrysler authorized repair centers and Chrysler authorized repair parts.

We will have to accept during the warranty period those kinds of restrictions in order to get the kind of warranty we want.

In terms of administration, Senator Andrews, there is a tendency in the defense procurment community to favor sample provision and sample clauses for contracts. This encourages bureaucratic rigidity.

I would recommend strongly to the DOD that they take extra measures to assure that all warranties are negotiable, that all terms and conditions are flexible and subject to such negotiation so that the weapon system can have a warranty tailored to it.

Second, there is a requirement by the Department of Defense that all components that are not furnished by the Government be warranted by the prime.

We have a major weapon system with major subsystems incorporated into it. This means essentially that the subcontractor who made the major subsystem warrants to the prime who then in turn passes that warranty to the service. If the service customer has a problem, then the complaint passes back to the prime to the sub.

In this particular case the prime does not play anything except the administrative role. It will have to pay for that.

I would suggest that the service accepts warranties on all major subsystems directly from the manufacturer whether they be Government-furnished equipment or contractor-furnished equipment.

CONFIGURATION CONTROL

Configuration control is a major problem. The services' jealously guard their right to it. I understand and appreciate that position very, very well. In order to achieve ceertain kinds of warranties, again the services will have to be able to and willing to give up configuration control, at least for the warranty period.

This relates to the situation I talked to in regard to the Competition in Contracting Act. We need very much to assure the manufacturer that while we use his equipment, we are in fact not abusing it, but are supporting it with the kind of maintenance services and spare parts or repair parts demanded by that quality level.

WARRANTY COSTS

My last concern is cost of warranties. There are many ways that warranties can become expensive. However, I think the Government is reasonable in its position of being able to pay for that which is reasonable in terms of cost of warranties.

My prime concern goes with the cost of administering the warranty. It is rather easy to write a warranty in a contract. It is rather difficult with some of those, however, to correct the data necessary to prove your case that in fact the equipment is not meeting warranty standards.

The number of data collection points, the amount of data collected reduced, recorded on computers, analyzed and finally produced and the people necessary to run it can impose some significant administrative operating costs which need to be avoided.

Thus, I recommend that the Department of Defense investigate this issue and establish policy for the writing of warranties which will avoid these follow-on costs of administration.

I am available for questions.

[The statement of General Rider follows:]

PREPARED STATEMENT OF GRAHAM W. RIDER, PH.D.

G. W. RIDER & ASSOCIATES

(an Arizona Corporation in the Defense Industry)

Mr. Chairman,

I welcome this opportunity to appear here with you and your subcommittee and to present my point of view regarding the successes and the occasional failings of 10 U.S.C. 2403, known generally in industry as "the warranty law", and of its implementation through section 46.7 of the Defense Supplement to Federal Acquisition Regulations. My comments are brief, and I believe, to the point. There is praise; there is some constructive criticism.

To justify my ability to present those comments, a brief sketch of my experience is appropriate. I've had a 31-year career as an Air Force officer, and retired in August of 1983 as a Major General. I was a career logistician, not a flying officer. The first third of that career involved maintenance of electronics equipment of fighter aircraft; the second third as a student and professor with the Air Force Institute of Technology; and the last third as a senior logistics staff officer and commander. During that latter stage I gained a thorough understanding of the Air Force's use of a class of contract clauses known as Product Performance Agreements and Reliability Improvement Warranties.

Upon my departure from the Air Force, I accepted an appointment as a full Professor of Purchasing and Logistics with the College of Business, Arizona State University. In that capacity I met a representative of a California firm, in 1984, who engaged me in a lengthy discussion concerning the then-in-existence warranty legislation and the on-going activity in Congress to expand that legislation. His company sells some of its products to prime manufacturers or to second tier companies in the defense industry, and he was quite concerned. In his words, about "how much of this warranty business are the primes going to ram down our throats?" I had no good answers for his concern, but I did have a course of action for finding them.

We established a forum at Arizona State University to study and discuss the issues involved in warranties in weapon system acquisition. We invited representatives of the Department of Defense, the armed services, and of the defense industry. Industry companies involved represented the prime, second and third levels of the contracting tier. Three meetings of the forum, spaced about six months apart, have been held. The next is scheduled for this coming October. We have shared our study results with the defense community and with your subcommittee. To our knowledge, no other activity has approached our depth of interest, research, study and discussion of these particular warranty issues. Although I left the faculty of ASU in January of this year to enter private business, I am continuing my work in this field and remain a member of the forum.

These are the results of my work which I wish to share with you:

First, with only rare exceptions, there is general approval and support for warranties in the defense industry. People in the industry are proud of themselves, their companies, and of their product. Furthermore, some few companies have already recognized that warranties can be used to advantage in the competitive stages of the acquisition process.

Second, DoD policy in general is positive and those who are implementing it are negotiating reasonable warranties on current production. This is remarkable, because most of our current production satisfies acquisitions begun well before the warranty requirement. The law's instant mandate did not recognize that a good warranty is based upon thorough testing of warrantable characteristics during the engineering development phase.

Third, I have no evidence of any prime jamming warranty requirements down subcontractor's throats. I have seen, however, some rather unique negotiations. For example, in the computer industry a ninety-day materials and workmanship warranty is standard. But a prime may purchase a computer today for incorporation into a system which will not be delivered to the military customer until two years from now. And the customer may want a one-year warranty starting on his date of acceptance. Such problems are being resolved.

In fact, at both the subcontracting and prime contracting levels we are seeing signs of American ingenuity and innovation at work.

Now, allow me to express my concerns.

First, with the law itself.

The law requires a performance warranty on essential operating characteristics. I have yet to meet anyone who understands this requirement. Most know operating characteristics as the rate of fire of a gun, the frequency of a radio, or the maximum hover altitude of a helicopter. Either the weapon system design satisfies these, or it is not accepted for delivery. In my view, operating characteristics are not warrantable, and that provision should be deleted from the law.

The law requires a waiver process and it delegates waiver authority within the Department of Defense. This is good. The law also requires that every waiver granted be reviewed by four committees of Congress. This is bad. Such a review process is taken as a clear indication of lack of trust in the integrity of those officials responsible for waivers. It effectively withdraws authority back up the chain to those committees. This is an example of what many call micro-mangement by Congress.

In your activities to reform Defense Procurement, be aware of the fact that you have already established a difficult-to-manage conflict of laws. Try to avoid the same in the future. This law and the Competition in Contracting Act are in direct opposition. Breakouts required by the CCA will, if done blindly, invalidate warranties. Manufacturers will warrant the qualities of their products. But if the services buy and use repair parts from a low bidder who is not qualified by the original manufacturer, then the warranty is useless. Remember, if you want your five-year and 50,000 mile Chrysler warranty to be valid, repairs on your car must be done by Chrysler authorized repair centers using authorized repair parts. Weapon system producers must and will demand the same. Hence, during the warranty period, the services are demanding up to five years of coverage, competition in contracting for repair parts and services may not be possible.

Second, with regard to its implementation:

A. There is a tendency in the Defense Procurement Community to favor standard provisions and sample clauses for contracts. At the contracting officer level this encourages bureaucratic rigidity. Every weapon system is unique. It would not be procured if that were not true. Hence, ever weapon system warranty should be tailored.

I recommend that the DoD take extra measures to ensure that warranties are negotiable and that both parties to the weapon system contract have the flexibility to create effective warranties.

B. There is a requirement that the prime will warrant all components or the weapon system which are not furnished by the Government. For major subsystems, such as avionics on a fighter aircraft, this means that the subcontractor will really have to provide all three warranties to the prime who, in turn, passes them on to the customer. When claims are made by the customer, the prime will pass them to the sub. The prime adds nothing to the warranty except costs for administration. Manufacturers of major subsystems prefer to deal directly with the customer on warranty issues.

I recommend that DoD deal directly with the manufacturers of major subsystems on warranties, regardless of the GFE or CFE status of the procurement.

C. The armed forces are unwilling to give up configuration control. I must point out that no manufacturer can be expected to warrant his product's performance if he cannot control its configuration. This is the same situation I described relative to the Competition in Contracting Act. It is a situation which is resolvable.

I strongly recommend that flexibility in configuration control be mandated by DoD in its supplement to the Federal Acquisition Regulation. Specifically, the services should be directed to give up configuration control to the manufacturer if the warranty demanded requires such action, or the services should be required to share configuration control with the manufacturer to the extent required by the warranty, for the warranty period.

C. My last concern is the cost of warranties. This is not the cost of the warranty itself. The Government is reasonable in its recognition of the fact that it must and will pay for what it gets. My concern, instead, is for the cost of administering a warranty. Self-imposed requirements for data collection, reduction and analysis on computers, and large numbers of people to administer these activities can end up costing far more than the warranty itself is worth. These are expenses the Government need not and should not incur.

I recommend that the Department of Defense study this issue in order to determine those policies and directives which are required to avoid the type of warranty which offers iron-clad protection, but which imposes tremendous administrative costs to get it.

Mr. Chairman, thank you for this opportunity to express my views. I am prepared to answer questions.

G.W. RIDER & ASSOCIATES, INC.
8116 South La Rosa Drive • Suite 100 • Tempe, Arizona 85284 • (602) 965-3888 • (602) 820-3037

Graham W. Rider

Experience and Accomplishments

My objective is to build a successful business by providing to the defense industry those products and services which apply advanced logistics concepts and technologies needed for efficiency and effectiveness in production and product support. Currently, I am President of G. W. Rider & Associates, which was incorporated in the State of Arizona in August, 1985.

From August 1983 to December 1985 I was a full Professor of Purchasing and Logistics, College of Business, Arizona State University. The challenge of an excellent business opportunity prompted my decision to leave the faculty. However, I will continue the University relationship as a Research Associate with the Computer Center and Reliability Laboratory of the College of Engineering.

I served as an officer in the U.S. Air Force from 1952 to 1983, ending that career as a Major General. I was not a flying officer. The first thirteen years of my service involved various assignments as an Avionics Maintenance Officer with fighter aircraft, the next seven years as a student and professor with the Air Force Institute of Technology, and the remainder as a senior logistician in both command and staff positions.

I see myself as a strong planner for, and implementer of, logistics programs. Examples:

a. Developed Air Force policy for integrating logistics requirements with operational needs at the concept stage of weapon system acquisition.

b. Completely reorganized USAF organization and support concepts for international logistics. I was, in effect, the Materials Manager for sixty-two foreign air forces.

c. Planned and implemented as program manager, Peace Log, a program designed to create a logistics command for the Imperial Iranian Air Force. We were about 50% completed when terminated by revolution. However, the Material Management and computer-based management systems we designed and developed are currently credited as the source of Iran's capability to sustain air power in the war with Iraq.

d. Planned and implemented a movement and control system to relocate depot maintenance workloads into and out of San Antonio Air Logistics Center. This was in 1973/74 and was done to create the current Technology Center concept for Logistics Command. We moved the resources required for tens of thousands of annual maintenance hours without a single serious problem.

e. Was San Antonio Air Logistics Center's manager for its share of the Advanced Logistics System, including Nuclear Ordnance Logistics. Supervised a staff of about 250 programmers and analysts. The nuclear ordnance system worked, but nothing else did. I shared in the disaster, and learned a lot from it.

Education:

1970	Ph.D., Management. Arizona State University. Dissertation: An Exploration of the Concept of Logistics: A Constitutive Approach.
1966	M.S., Logistics Management. Air Force Institute of Technology. Thesis (with H. Long): The Role of Management in Logistics Support for Tactical Mobility.
1952	B.S., Engineering. U.S. Military Academy, West Point, N.Y.

Military Assignments:

1982-1983	DCS Acquisition Logistics, Headquarters Air Force Systems Command
1981-1982	Co-Director, US-Spanish Combined Military Coordinating and Planning Staff, Madrid, Spain
1978-1981	Commander, International Logistics Center, Wright-Patterson Air Force Base, Ohio
1975-1978	Commander and Program Manager, Peace Log, Tehran, Iran
1973-1975	Director of Distribution, San Antonio Air Logistics Center, Kelly Air Force Base, Texas
1972-1973	Director of Plans, San Antonio Air Logistics Center, Kelly Air Force Base, Texas
1965-1972	Student and Professor of Management, Graduate Logistics Management Program, AFIT, Wright-Patterson Air Force Base, Ohio
1952-1965	Various squadron and headquarters staff assignments as an Avionics Maintenance Officer

PROFESSIONALISM IN ACQUISITION WORKFORCE

Senator ANDREWS. Thank you, General.

Do you think a more professional acquisition workforce would help negotiate better warranties or is the impediment to better warranties tied to bureaucratic rigidity?

They have not done it before. They do not want to start doing it. It is the first major systemic change in DOD procurement that they have seen in 35 years.

General RIDER. It is a major systemic change. I think that there was a great deal of inertia. I do not think it is bureaucratic per se because there was a great deal of resistance to warranties in industry as well. It is something that has not been done before to any great extent.

I would submit that for a long period of time warranties were part and parcel of the acquisition process. In my own experience, the Air Force used warranties for specific purposes and was very successful with them. We generally referred to them as product performance agreements or reliability warranties. These did what our objectives asked them to do.

In general, I view the acqusition force as rather professional and would not recommend other major changes of any particular sort. I have none that I would recommend to you.

Senator ANDREWS. Your statement implies that all administrative costs are not being considered properly.

Do you have any specific evidence of that?

General RIDER. The alternate fighter engine warranty requirement is a good example of the number of data collection points required. We are warranting down to the piece part level on those engines.

Since we are talking in terms of thousands of parts, we are talking in terms of thousands of records.

Senator ANDREWS. General, we appreciate very much your appearance. We appreciate the testimony you have submitted to us.

SUBCOMMITTEE RECESS

The subcommittee will now stand in recess until 10 a.m. on Thursday, March 13, when it will reconvene to receive testimony from the Department of Defense on the National Guard and Reserves.

[Whereupon, at 11:55 a.m., Wednesday, March 12, the subcommittee was recessed to reconvene at 10 a.m., Thursday, March 13, 1986.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

THURSDAY, MARCH 13, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m. in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Andrews, D'Amato, Rudman, Cochran, Stennis, Proxmire, and Johnston.

DEPARTMENT OF DEFENSE

ASSISTANT SECRETARY OF DEFENSE FOR RESERVE AFFAIRS

STATEMENT OF JAMES H. WEBB, ASSISTANT SECRETARY OF DEFENSE FOR RESERVE AFFAIRS

ACCOMPANIED BY:

- **LT. GEN. EMMETT H. WALKER, JR., USA CHIEF, NATIONAL GUARD BUREAU**
- **MAJ. GEN. HERBERT R. TEMPLE, JR., USA ARMY NATIONAL GUARD**
- **MAJ. GEN. JOHN B. CONAWAY, USAF DIRECTOR, AIR NATIONAL GUARD**
- **MAJ. GEN. WILLIAM R. BERKMAN, USA CHIEF OF ARMY RESERVE**
- **VICE ADM. CECIL J. KEMPF, USN CHIEF OF NAVAL RESERVE**
- **MAJ. GEN. LOUIS H. H. BUEHL III, USMC DEPUTY CHIEF OF STAFF (RESERVE AFFAIRS), HEADQUARTERS, U.S. MARINE CORPS**
- **MAJ. GEN. SLOAN R. GILL, USAF CHIEF OF AIR FORCE RESERVE**

RESERVE FORCES

SELECTED RESERVES BUDGET

Senator ANDREWS [presiding]. Good morning.

The subject of today's hearing is the fiscal year 1987 budget request for Reserve forces. That portion of the request examined by this subcommittee is approximately $19.4 billion for personnel, operations, and procurement.

This request is a decrease of $1.3 billion from fiscal year 1986 post-

Gramm-Rudman sequestration fund levels. This decrease is largely explained by the absence of a separate request for Guard and Reserve equipment.

The request includes an increase of 51,623 reservists to support continued expansion of our Reserve force mission. As budget constraints grow tighter, more missions will be assigned to the Reserve forces as a cost efficient alternative. We will be relying on the Reserve components more than ever to contribute to our military readiness.

We welcome James Webb, the Assistant Secretary of Defense for Reserve Affairs, and the chiefs and directors of the Reserve components. It would be most helpful to the committee if a detailed breakdown of the funding and program impact of fiscal year 1986 Gramm-Rudman-Hollings sequestration on each of the Reserve component accounts were provided for the record.

Gentlemen, your printed statements will be included in the record. We would appreciate your summaries in order to allow sufficient time for questions, which will be limited to 10 minutes for each Senator.

Senator Stennis, do you have an opening statement?

Senator STENNIS. I do not have a statement at this time. I think we should proceed.

Senator ANDREWS. Senator D'Amato?

PREPARED STATEMENT

Senator D'AMATO. In order to conserve time, I ask that my statement be received in the record as if read.

Senator ANDREWS. Without objection.

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I commend you for calling this hearing to review issues concerning our Reserve and National Guard forces. We have expanded our dependence on our Reserve and Guard forces to the extent that we could not successfully engage in an armed conflict much larger than Grenada without employing these forces. Therefore, their readiness is critical to our national security. I welcome this opportunity to hear Secretary Webb's views on the vital issues we must address in this period of reduced defense spending.

New York State makes a major contribution to our Reserve and Guard forces. With the selection of the 27th Infantry Brigade of the New York Army National Guard as the roundout brigade for the 10th Mountain Division at Fort Drum, our Guard forces have the opportunity to participate in the most modern developments in our Army.

Already our Air Force Guard and Reserve are training with advanced equipment. We have A-10's at Hancock Field in Syracuse. We also have an expanding program at Stewart International Airport involving a variety of Reserve forces.

Two Naval Reserve frigates will form a key part of the new Navy surface action group which will be based at Staten Island in New York Harbor. This surface action group, centered around the Battleship *Iowa*, will have these frigates, based at Floyd Bennett Field, as part of its antisubmarine warfare assets.

I am very pleased with the improvements I have noted in the Reserve and Guard forces in New York. It is very important that we continue these increases in modern equipment and accompanying improvements in training, in staffing, and in support.

In that connection, I want to raise a point I believe is absolutely critical. I understand that the Department has proposed, as a money-saving measure, elimination of Guard and Reserve eligibility for the new GI bill. If this proposal is adopted, there will be a serious negative impact on recruiting for the Guard and Reserve, with a resulting decrease in their combat readiness.

Our Reserve forces are people forces. They are the men and women who live in our communities, who are our neighbors and our coworkers. They have volunteered to defend their country. They deserve the best we can give. In particular, they should not be discriminated against in comparison with our Active forces. They should remain eligible for the GI bill.

I look forward to discussing this issue, among others, with you this morning.

Thank you, Mr. Chairman.

WORLDWIDE STATUS OF U.S. GUARD AND RESERVE

Senator ANDREWS. Secretary Webb.

Mr. WEBB. Thank you, Mr. Chairman.

I would just take about a minute and a half of your time and say that during the past year my staff, my Deputy Assistant for Readiness and Training, visited 37 States. They have been in almost 300 units from the Guard and Reserve, all seven components. They visited the European theater, Central America, and Canada.

I have been personally in 18 States and had seven bilateral visits with our NATO allies. I am very comfortable in saying that the Guard and Reserve components we have in this country are far and away the best in the world.

I am also conscious of the missions they are now being required to perform, which are unique in the world. So, we must constantly focus on the sorts of requirements we have rather than simply comparing ourselves with other Reserve components.

During this administration we have increased Guard and Reserve budgets, with the assistance, and sometimes with the direction, of this Congress, by 53 percent in real dollars. Our manning has been increased by 31 percent. We have increased exercise participation by 8 percent.

We are conscious of the difficulties that we have. We are working to remedy them. In the area of equipment we are going to be putting $29 billion worth of equipment into the Guard and Reserve over the next 4 years.

Since I have been here, in the last 2 years the selected items, the important items that are on our equipment report, have increased in the Army side, which is where the serious problems are, from 57 percent to 71 percent. This is now comparable to the active Army. This is a problem area that obviously will not go away. We are shooting against a moving target, but it is one we are conscious of.

We have done work in pretrained manpower. We have worked to look at the data with respect to the aging of the force, to all areas of personnel. We have examined force structure issues and we are prepared to discuss all that with you today.

Thank you, Mr. Chairman.

[The statement of Mr. Webb follows:]

PREPARED STATEMENT OF JAMES H. WEBB, JR.
ASSISTANT SECRETARY OF DEFENSE (RESERVE AFFAIRS)

Mr. Chairman and members of the subcommittee:

It is a pleasure for me to appear before this committee and present an overview of the National Guard and Reserve since, I believe our reserve components represent the finest Reserve forces in the world. These forces perform peacetime missions every day in support of the Active force and are true partners in the defense of the United States.

While I am most pleased with the progress that has been made since 1980, in manning, equipping, and training the reserve components, there is still more to be done to further develop and sustain their peacetime and war fighting capability. My overview of the reserve components will address the progress we have achieved, plans for the future, and some of the remaining problems.

Army National Guard and Army Reserve

By the end of 1987, 51% of Army's combat forces and 52% of its support forces will be in the Army National Guard and Reserve. Currently, two round out brigades (the 27th Infantry Brigade of the New York Army National Guard and the 205th Separate Infantry Brigade) are being added to newly activated Active Army divisions. A tenth Army National Guard division, the 29th Infantry Division (Light), is being added to the structure. The Army reserve components now provide 50 percent of the Special Operations Forces, and ninety percent of the psychological operations and civil affairs units are in the reserve components.

During FY 1987, approximately $2.1 billion in new equipment is planned for issue to the Army reserve components, including the M60A3 tank, AH-1S and UH-60 helicopters, and Bradley Fighting Vehicle.

Modification of the AH-1G helicopters to the AH-1S will provide the Army reserve components with a modern attack helicopter. Helicopter attack capability will also be improved with the fielding of an AH-64 Apache helicopter battalion in the Army National Guard during FY 1987/1988.

The missile armament posture of the Army National Guard will be significantly enhanced with the delivery of the TOW-2 missile system beginning in FY 1986.

All eight Army National Guard Duster battalions will be modernized before the ROLAND Air Defense Missile system is phased out of the Army. Delivery of the first CHAPARRAL battalion's fire units will be completed in 1986, and the second battalion's fire units will be delivered early in FY 1987.

Increased Army National Guard and Reserve participation in field exercises has improved unit and individual capability. The number of Army Guard and Reserve units participating in training with overseas deployed forces increased from 117 in 1980 to 1,932 units/cells involving 26,228 personnel in 1985. During FY 1986, 1,869 units/cells involving 26,960 personnel, will train with overseas deployed forces. For the first time, a brigade size unit (the 32d Separate Infantry Brigade, Wisconsin Army National Guard) moving with all of its equipment and more than 5,000 personnel participated in the Reforger Exercise in Germany. Reserve component participation at the Army's National Training Center continues to be stressed as one of the most productive training scenarios available. The National Training Center provides these units with the most rigorous combined arms training experience possible short of actual war. To further enhance Guard and Reserve field training, the Army reserve components will make greater use of the Multiple Integrated Laser Engagement System (MILES) equipment, a tactical engagement simulation system.

While Army Guard and Reserve maintenance personnel training on state-of-the-art equipment still remains a major problem, steps are being taken to provide hands-on training and instruction on modern equipment at Regional Maintenance Training Sites (RMTS). Pilot RMTS's are scheduled to begin operation in FY 1986 at Camp Shelby, Mississippi, and Fort Bragg, North Carolina, with a total of twenty-one budgeted to become operational by FY 1990. Other important training facilities for the reserve components include Regional Training Site-Medical, which provides Army National Guard medical units with complete sets of deployable medical system hospital equipment for training, and a Regional Training Center planned for Fort Dix, New Jersey, which will be a test-bed facility for developing skills through use of training devices and simulation techniques.

Naval Reserve

Modernization of the Naval Reserve Surface Force continues with the acceptance of four more FFG-7 Perry class frigates during FY 1986. With three additional FFG-7s and one FF-1052 to be transferred during FY 1987, the Naval Reserve Surface Force will have a total of seven FF-1052 Knox class and twelve FFG-7 Perry class frigates. The SH-2F helicopter is now operated by three Naval Reserve squadrons and is employed on board the Reserve frigates to round out their ASW capability.

In addition, the Naval Reserve will receive all 14 of the new construction MCM-1, Mine Countermeasure Ships, and all 17 of the new MSH-1, Minesweeper Hunter Ships. The first MCM is scheduled to be transferred to the Naval Reserve in FY 1988. By the early 1990's more than 50 ships of the emerging 600 ship Navy will be in the Naval Reserve. Three Salvage ships will enter the Naval Reserve Force in FY 1986. Two new Mobile Inshore Undersea Warfare Units will be organized in FY 1987 as this element of the Naval Reserve will increase from 17 units at the end of FY 1985 to 28 units by FY 1990.

Modernization of Naval Reserve aviation continues. The F-14 fighter was added to the Reserve Carrier Air Wings during

FY 1985. The Naval Reserve is also transitioning from the A-7B to the more modern A-7E attack aircraft. Naval Reserve pilots have been training in the new F/A-18 aircraft for two years, and actual assignment of aircraft to the first Reserve Strike Fighter squadrons occurred in October last year. The Squadron Augmentation Unit concept initiated in FY 1984 also has been successful in enhancing the training of Naval Reserve augmentation aircrews in the same A-6, F-14, P-3C, SH-3H, S-3, and E-2C aircraft employed by their gaining squadrons. Two new Airborne Mine Countermeasure Squadrons, flying the RH-53D, will be added to the Naval Reserve, with the first one standing up in FY 1987 and the second in FY 1989.

The TACNAVMOD upgrade for the P-3A and B maritime patrol aircraft will be completed in FY 1986, and upgrading of the AQA-7 acoustic processor on these aircraft will continue. These improvements will provide us with an effective, current reserve component maritime patrol force. However, to maintain our capability to meet modernized Soviet submarine forces, as well as providing active and reserve compatibility, Naval Reserve transitions to the P-3C aircraft must be accomplished. Earmarking six of the P-3C aircraft in the Navy's FY 1986 procurement program for the Naval Reserve was a significant step toward achieving this goal. This is especially important, since the Naval Reserve provides one-third of the Navy's total maritime patrol capability.

During FY 1985 the last C-118 aircraft were retired and the final increment of the used DC-9s were procured to replace the limited airlift capability of the C-118's. Introduction of the two C-20A aircraft approved by Congress in FY 1986 will enhance the airlift capability of the Naval Reserve.

Marine Corps Reserve

Once viewed primarily as a source of pretrained manpower for active unit integration, the Selected Marine Corps Reserve now trains to operate as highly effective combat units. Today, Marine Corps Reserve units are committed to active force commands in contingency planning. In accordance with the "first to fight, first to be equipped" policy, the Marine Corps Reserve is receiving the types of major new ground equipment and weapon systems being introduced into the Marine Corps inventory.

To keep the Marine Corps Reserve adaptable to changing mobilization requirements, numerous structural changes are occurring. These include activation of the final and major portion of the 4th Medical and 4th Dental battalions, a Light Armored Vehicle (LAV) battalion, a Target Acquisition Battery for artillery, an additional extensive Alaskan arctic training environment location, and a Selected Marine Corps Reserve Reconnaissance unit established in FY 1985 in Anchorage, Alaska. The reorganization of infantry and direct support artillery battalions also enhanced the mobilization capability of the Marine Corps Reserve.

Three F-4 squadrons transitioned to the more modern F-4S fighter during FY 1985; eight new KC-130T tanker aircraft have been provided to the Marine Corps Reserve with two more scheduled for delivery in calendar year 1986. Current plans are for the Marine Corps Reserve to transition, after the active force upgrades, to F/A-18, AH-1T, CH-53E, and MV-22A aircraft. The Marine Corps Reserve will begin operations this year of an aggressor squadron equipped with the F-21A (KFIR) aircraft. The squadron will provide training support for both Active and Reserve units by exposing aircrews to adversary air combat tactics.

During FY 1985, Marine reservists trained in exercises throughout the world with their active force counterparts. During FY 1986, exercises will continue to emphasize providing a trained/operational ready Marine Corps Reserve in support of contingency plans and the Total Force Policy.

Air National Guard and Air Force Reserve

The combat capability of the Air Reserve Forces continues to improve. The Air National Guard and the Air Force Reserve provide 34 percent of the Air Force tactical fighter capability. Both are currently acquiring the highly capable F-16 fighter aircraft and upgrading the F-4 fleet, and the Air National Guard is acquiring the F-15. During FY 1986, the Air National Guard will receive the second and third F-16 squadrons. In FY 1987 the Air Force Reserve will receive its second F-16 squadron, and the Air National Guard will receive its second F-15 squadron.

Air Reserve Force units are also acquiring the C-5 and C-141 strategic airlift aircraft, as well as new C-130H tactical airlift aircraft. To enhance airlift capability, two C-141B squadrons are being established during FY 1986. Additional C-5A and C-141 aircraft will be transferred to the Air Reserve Forces as the active force acquires the C-5B and C-17 aircraft. Long-range plans call for the assignment of the C-17 to the Air Reserve Forces early in the next decade.

A comprehensive modification program for existing Air Reserve Force aircraft also is ongoing. Combat capability enhancements include equipping F-4 aircraft with new navigation and weapons delivery systems, Heads-Up Display (HUD), advanced AIM-9L air-to-air missile capabilities, low smoke engines, 10 Mil Bomb Sights, and improved radar warning receivers.

To provide meaningful and realistic training, Air Reserve Force participation in RED FLAG, overseas, and joint exercises has increased by 30 percent since 1980.

Coast Guard Reserve

The Coast Guard Selected Reserve strength increased to 12,600 personnel in FY 1985. Additional growth of 500 is requested in FY 1987.

The Coast Guard Reserve is enhancing mobilization readiness through participation with both Active and reserve components of the Army, Navy, and Marine Corps in interservice exercises. Coast Guard Reserve readiness training also included augmentation of the active Coast Guard peacetime missions, having dedicated over 1.6 million Reserve man-hours in FY 1985. Total Force readiness exercises and active component mission integration will continue to play a major role in Coast Guard Reserve mobilization readiness training. Particular emphasis will be placed on training deployable Port Security Units, small boat crews, and forces that mobilize to Coast Guard Cutters.

FY 1987 BUDGET REQUEST

It is essential that sufficient funding be made available to man, equip, and train the National Guard and Reserve forces to ensure they can be integrated into the total military structure as fully functional units or as trained individuals. I ask your support for the Guard and Reserve programs we have presented to you in the FY 1987 Budget, so that we can continue our progress.

The specific estimates related to the National Guard and Reserve in the FY 1987 Budget Request are as follows.

Appropriation Summary

Table 1 depicts the Total Obligational Authority (TOA) by Reserve component.

Table 1
TOA, $ in Millions

ARMY	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Military Personnel:	5,048.0	5,689.1	6,138.0
Reserve Personnel, Army	1,966.7	2,271.4	2,432.0
National Guard Personnel, Army	2,866.4	3,196.3	3,485.2
Active Component	214.9	221.4	220.8
Operation and Maintenance:	2,163.3	2,462.9	2,580.0
O&M Army Reserve	731.4	780.1	793.1
O&M Army National Guard	1,431.9	1,682.8	1,786.9
Military Construction:	167.9	163.5	207.8
Mil. Con. Army Reserve	69.3	61.3	86.7
Mil. Con. Army National Guard	98.6	102.2	121.1
Procurement:	2,238.6	1,888.4	1,586.2
Total Army	9,617.8	10,203.9	10,512.0

NAVY			
Military Personnel:	1,356.9	1,552.3	1,712.6
Reserve Personnel, Navy	1,146.9	1,349.2	1,527.6
Active Component	210.0	203.1	185.0
Operation and Maintenance:	809.6	912.7	975.9
O&M Navy Reserve	809.6	912.7	975.9
Military Construction:	49.8	32.5	24.7
Mil. Con. Navy Reserve	49.8	32.5	24.7
Procurement:	514.1	707.4	258.0
Total Navy	2,730.4	3,204.9	2,971.2
	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
MARINE CORPS			
Military Personnel:	396.1	412.0	447.2
Reserve Personnel, Marine Corps	269.9	287.3	314.8
Active Component	126.2	124.7	132.4
Operation and Maintenance:	58.7	58.2	65.3
O&M Marine Corps Reserve	58.7	58.2	65.3
Military Construction:	11.0	9.3	19.8
Mil. Con. Navy Reserve	11.0	9.3	19.8
Procurement: (included in Navy)	-	-	-
Total Marine Corps	465.8	479.5	532.3
AIR FORCE			
Military Personnel:	1502.9	1,653.7	1,751.6
Reserve Personnel, Air Force	568.3	611.8	646.0
National Guard Pers., Air Force	885.2	994.4	1,058.9
Active Component	49.4	47.5	46.7
Operation and Maintenance:	2,702.4	2,715.9	2,908.3
O&M Air Force Reserve	877.8	902.7	975.6
O&M Air National Guard	1,824.6	1,813.2	1,932.7
Military Construction:	179.0	184.3	198.9
Mil. Con. Air Force Reserve	67.8	63.0	58.9
Mil. Con. Air National Guard	111.2	121.3	140.0
Procurement:	1,869.8	961.4	972.9
Total Air Force	6,254.1	5,515.3	5,831.7
OTHER			
Guard and Reserve Procurement:	380.0	1,501.8	-----
Total Other	380.0	1,501.8	-----

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
TOTAL DOD			
Military Personnel:	8,294.8	9,307.2	10,049.4
Reserve Personnel	3,951.8	4,519.7	4,920.4
National Guard Personnel	3,751.6	4,190.7	4,544.1
Active Component	591.4	596.8	584.9
Operation and Maintenance:	5,733.8	6,150.6	6,529.6
O&M Reserve	2,477.3	2,654.6	2,810.0
O&M National Guard	3,256.5	3,496.0	3,719.6
Military Construction:	407.7	389.6	451.2
Mil. Con. Reserve	197.9	166.1	190.1
Mil. Con. National Guard	209.8	223.5	261.1
Procurement:	5,002.5	5,059.0	2,817.1
Total DoD	19,438.8	20,906.4	19,847.3

ANALYSIS OF RESERVE COMPONENT GROWTH

The significant increases between FY 1980 and FY 1987 for the reserve components, as shown in the following table, is a positive indicator of the increased reliance on the reserve components as a peacetime partner and an immediately available wartime resource.

RESERVE COMPONENT BUDGET

TOA ($ in Millions)

Current Dollars:	FY1980	FY1987	Increase	(%) 87 vs 80
Military Personnel	$ 2,457	$ 7,517	$ 5,060	306%
Retirement Accrual	-	2,533	2,533	100%
Operational Maintenance	3,526	6,530	3,004	185%
Procurement	1,460	2,817	1357	193%
Military Construction	120	451	331	376%
Total (With Retirement Accrual)	$ 7,563	$19,848	$12,285	262%
Total (Excluding Ret. Accrual)	$ 7,563	$17,315	$ 9,752	229%
Constant Dollars:				
Military Personnel	$ 3,877	$ 7,517	$ 3,640	194%
Retirement Accrual	-	2,533	2,533	100%
Operations and Maintenance	4,518	6,530	2,012	145%
Procurement	2,081	2,817	736	135%
Military Construction	159	451	292	284%
Total (With Retirement Accrual)	$10,635	$19,848	$ 9,213	187%
Total (Excluding Ret. Accrual)	$10,635	$17,315	$ 6,680	163%

RESERVE COMPONENT END STRENGTH

MANPOWER (In Thousands)				
Selected Reserve	869	1,186	317	136%
AGR Included	23	76	53	330%

Guard and Reserve Facilities

Our FY 1987 military construction request is $451.2 million--a growth of approximately $62 million over the FY 1986 level.

My staff participates in the planning, programming, and budgeting of military construction. We do not direct the Services on what, where, and when to build. Rather, we carefully review their decisions, and support prudently justified projects which will improve mission accomplishment and permit realistic training.

My staff continuously monitors execution of the Military Construction programs, and has contributed to the FY 1985 execution of these programs being the highest within the Department. We are working on ways to further improve our execution rate, with a goal of 100 percent first year execution.

A major concern in the existing facilities program is the quantity of identified backlogs for both construction and repair. Current service estimates indicate that Reserve component construction backlog exceeds $3 billion. We have implemented procedures to validate and categorize the backlog and will subsequently develop plans for containment and systematic reduction of this backlog.

Procurement (National Guard and Reserve Equipment)

Last year I reported to you that we were making progress in closing the gap between Active and Reserve forces in terms of equipment fill rates and distribution. I am pleased to advise you that such progress has continued, with even greater momentum, throughout the past year.

We recently forwarded the FY 1987 report to Congress on the status of Guard and Reserve Equipment. This report is based on a representative sampling of 1,200 major line items of Guard and Reserve equipment. Within these selected items of equipment, the report shows that equipment valued in excess of $5.8 billion was distributed to the Guard and Reserve components during FY 1985 alone. Offsetting these additions, nearly $1.2 billion of equipment was removed from reserve component inventories, the majority of which represented equipment modernization actions. The resulting net gain to Guard and Reserve inventories was $4.6 billion, plus the intangible value of increased capability realized from the modern equipment.

Based on this representative sample, if the Guard and Reserve were to be mobilized at the beginning of the budget year (FY 1987), they would be able to field approximately 80 percent of their required equipment, in both numbers of items and dollar value. Through the use of available substitute items, this capability could be raised to approximately 86 percent. This compares to about a 90 percent equipment availability for the Active components for the same line items reviewed.

In addition to the equipment redistributed to the reserve components, mentioned above, approximately $5 billion was appropriated in FY 1985 and $5.1 billion in FY 1986 for the procurement of equipment which will be delivered to the Guard and Reserve in future years. The Department's procurement plan is contained in the P-1R report, which reflects the types, quantities, and costs of all equipment items which have been proposed for procurement for the reserve components. The report identifies almost $2.8 billion in FY 1987 procurement dedicated to the National Guard and Reserve:

- The Department of the Army has submitted budget requirements for $1.1 billion for the Army National Guard and $463.0 million for the Army Reserve, totaling nearly $1.6 billion.

- The Department of the Air Force budget proposals include $733.9 million for the Air National Guard and $239.0 million for the Air Force Reserve, totaling $972.9 million.
- The Department of the Navy has identified $106.2 million for the Naval Reserve and $151.8 million for the Marine Corps Reserve.

Even if we achieve 100% of our equipment distribution plans, serious shortfalls will still exist. As indicated in the Fiscal Year 1987 Guard and Reserve Equipment Report, a shortfall of $10.6 billion will remain after the end of Fiscal Year 1989, just within the 1200 line items included in the report.

Although we have made significant gains during the past year in both equipment availability and the management of this equipment, more remains to be done. First, we must achieve our equipment procurement and distribution programs. Secondly, we must improve our ability to identify, validate, and prioritize equipment requirements so that mission essential requirements are provided first, and maximum return in terms of military capability is achieved for each dollar expended. Lastly, we must develop better plans and methods for improving and expanding the capabilities of our on-hand equipment.

Selected Reserve Personnel Strength

Between FY 1980 and FY 1985 Selected Reserve end strength levels increased by more than 25 percent. For FY 1987, we are projecting a strength increase of more than 51,600. This increase reflects the demands of new and expanded missions assigned to the reserve components and expansion of our full-time support capabilities.

In FY 1987 the growth in Selected Reserve end strength of 12,000 Army National Guardsmen and 17,000 Army Reservists is primarily for continued improvements in force readiness and further modernization of force structure. The increase of more than 13,000 in the Naval Reserve represents increased manning to meet wartime requirements. The Navy FY 1987 budget submission indicates that Selected Reserve strength is programmed to reach the full requirement by the end of FY 1987, with the exception of medical support and construction force activities which will be attained by FY 1989. The Marine Corps Reserve increase of about 1,400 Selected Reservists will meet requirements generated by additional unit activations and increasing ground combat and support capability. The Air National Guard and Air Force Reserve are programmed to increase their end strengths by approximately 4,300 and 3,100 respectively. These increases support force structure growth, modernization of aircraft, enhanced aerial port, aeromedical evacuation, and civil engineering wartime capability.

The Coast Guard Selected Reserve strength increased to 12,600 personnel in FY 1985. With the requested increase to 13,000 Selected Reservists in FY 1987, the Coast Guard Reserve will continue its gradual growth in order to reduce mobilization shortfalls.

Even in view of the training requirements associated with these significant total strength increases, our trained strength in units, as shown in Table 1, will continue to improve.

Table 1

Trained Manning In Units Against Wartime Requirements

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Wartime Requirements in Units	1110.0	1131.5	1167.5
Selected Reserve End Strength	1088.1	1134.7	1186.2
Total Trained Personnel in Units	956.0	1009.2	1057.6
Percent Trained in Units	85.9	88.9	90.2

Table 2 depicts the Selected Reserve strength profile by reserve component.

Table 2

Selected Reserve End Strength

(Thousands)

	FY 1980* Actual	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Army National Guard	366.6	440.0	450.5	462.8
Army Reserve	213.2	292.1	310.7	327.6
Naval Reserve	97.2	129.8	142.2	155.7
Marine Corps Reserve	35.7	41.6	43.0	44.4
Air National Guard	96.3	109.4	110.9	115.2
Air Force Reserve	59.8	75.2	77.4	80.5
DoD Total	868.7	1,088.1	1,134.6	1,186.2

* For consistency, FY 1980 strengths have been adjusted to include Navy Training and Administration of Reserves (TARs) and Category "D" Individual Mobilization Augmentees (IMAs).

Full-Time Support Personnel

Full-time support personnel perform the management, administration, training, equipment maintenance, and similar essential tasks associated with the readiness of the Guard and Reserve. Full-time personnel include Active Guard and Reserve (AGR) members (who are counted as part of the Selected Reserve), military technicians (civilians who are also Selected Reservists who would mobilize with the supported unit), active force members (who provide full-time interface and support but are counted as a part of active force end strength), and Department of Defense civilians (who provide full-time support in a strictly civilian capacity and would not mobilize with the unit).

Full-time support personnel levels must also increase as the Reserve components expand in size.

From FY 1980 through FY 1985, AGR personnel strength grew by approximately 32,000. An additional increase of 9,400 is projected for FY 1986 and 12,000 for FY 1987. We are also requesting growth in the military technician program. Table 3 depicts the current plan for both the AGR and the military technician programs.

Table 3

Full-Time Support (End Strengths)

ACTIVE GUARD AND RESERVE (AGR)

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Army National Guard	21,059	23,731	28,721
Army Reserve	10,751	12,157	13,657
Naval Reserve	15,012	19,010	23,197
Marine Corps Reserve	1,134	1,475	1,782
Air National Guard	6,369	7,269	8,356
Air Force Reserve	570	635	676
Total DoD	54,895	64,277	76,389

Table 3

MILITARY TECHNICIANS

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Army National Guard*	23,769	25,290	25,799
Army Reserve	7,857	7,623	8,032
Air National Guard*	22,145	22,242	22,532
Air Force Reserve	8,064	9,042	9,178
Total DoD	61,835	64,197	65,541

* Excludes non dual-status support technicians hired under Title 32.

Table 3 (Continued)

ACTIVE COMPONENT

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Army National Guard	973	782	784
Army Reserve	1,230	1,230	1,230
Naval Reserve	5,847	5,816	6,650
Marine Corps Reserve	5,180	4,765	4,978
Air National Guard	724	719	710
Air Force Reserve	743	640	609
Total DoD	14,697	13,952	14,961

Table 3

CIVIL SERVICE

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Army National Guard	2,124	1,763	1,754
Army Reserve	6,496	5,441	3,734
Naval Reserve	3,081	3,191	3,207
Marine Corps Reserve	221	256	256
Air National Guard	2,474	2,592	2,573
Air Force Reserve	4,772	4,211	4,542
Total DoD	19,168	17,454	16,066

We continue to support a mix of technicians and AGR personnel in the Army and Air Force reserve components based on their respective mission requirements. We will continue to press for a full-time support structure that includes cost, resource availability, deployability, and overall mission effectiveness as prime considerations.

Individual Ready Reserve

A major manpower challenge is the availability, at mobilization, of sufficient numbers of pretrained individuals to fill wartime shortages in active and reserve component units, to replace untrained or partially trained unit members, and to serve as initial casualty replacements. The Individual Ready Reserve (IRR) and military retirees constitute the bulk of this resource. To ensure the availability of these members and enhance their readiness, we must prudently manage this resource.

The Fiscal Year 1986 Authorization Act required the DoD to conduct a muster test of the Army IRR. The Army conducted that voluntary test for a portion of its IRR in January 1986, with more than 6,000 IRR members reporting for a one day muster. From this test, the Army is gathering detailed IRR personnel data; skill proficiency, physical conditioning, and attitudinal information; and other data that will be used to evaluate Army IRR members' availability and fitness for duty. The test also permits an examination of the adequacy of current IRR call-up procedures. The experience gained from this test will contribute to our new involuntary IRR annual reporting program.

Since current law and DoD policy requires the Services to continuously screen all Ready Reservists to ensure they meet wartime standards, in FY 1987, we will implement a new requirement for all IRR personnel to perform at least one day of active duty each year to accomplish mandatory annual reporting. Mandatory annual reporting will permit the evaluation of IRR skill proficiency, refresher training needs, and mobilization availability. It also will reinforce IRR members' cognizance of their legal obligation to notify their respective Service concerning changes in personal status.

While the IRR annual reporting requirement that will commence in FY 1987 is the most important action in our program, we are continuing with previous programs to ensure locatability, increase the numbers of personnel with needed skills, and address refresher training needs.

The Army, Navy and Air Force have applied IRR Reenlistment Bonus Programs designed to reduce specific shortages in combat and other critical wartime skills. Since the last quarter of

FY 1984, when the program was first implemented, more than 5,000 servicemembers in combat and combat support skills enlisted in the IRR. Our two-tier reenlistment bonus program, beginning in FY 1986, will include a six-year enlistment option, not to exceed $1,500, in addition to the three-year enlistment.

One of our continuing concerns has been the availability and locatability of IRR members. In 1985, the Defense Manpower Data Center supplemented intensive Service efforts to locate IRR members by conducting file matches with other Federal agencies and with active duty files in an effort to obtain more up-to-date information. These efforts will compliment resource management initiatives and programs stemming from the annual screening requirement.

The readiness of the IRR depends in large measure on maintaining the skill proficiency and ability of members to perform their wartime tasks. The FY 1987-91 Defense Guidance directed the Services to evaluate IRR skill degradation, and to conduct appropriate refresher training programs, beginning in FY 1988.

Table 4 depicts the IRR strength profile by reserve component.

Table 4

IRR STRENGTH

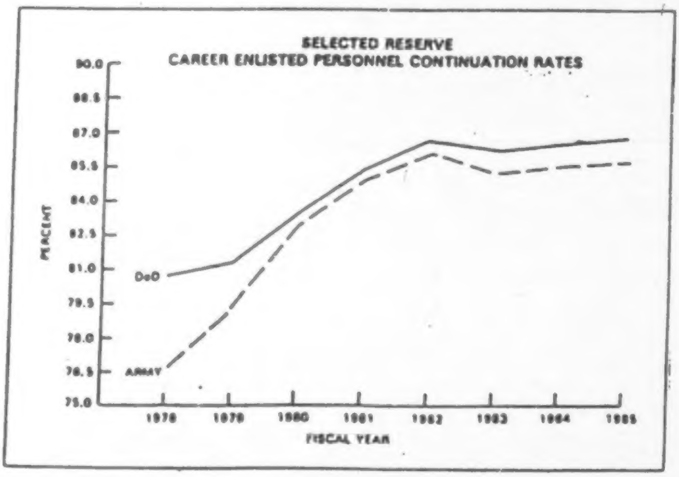
(In Thousands)

Component	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
ARNG (ING)	10,744	9,600	9,700
USAR	301,825	318,900	336,100
USNR	71,462	84,500	93,800
USMCR	47,855	52,000	55,000
USAFR	45,983	39,200	42,500
TOTAL	477,869	504,200	537,100

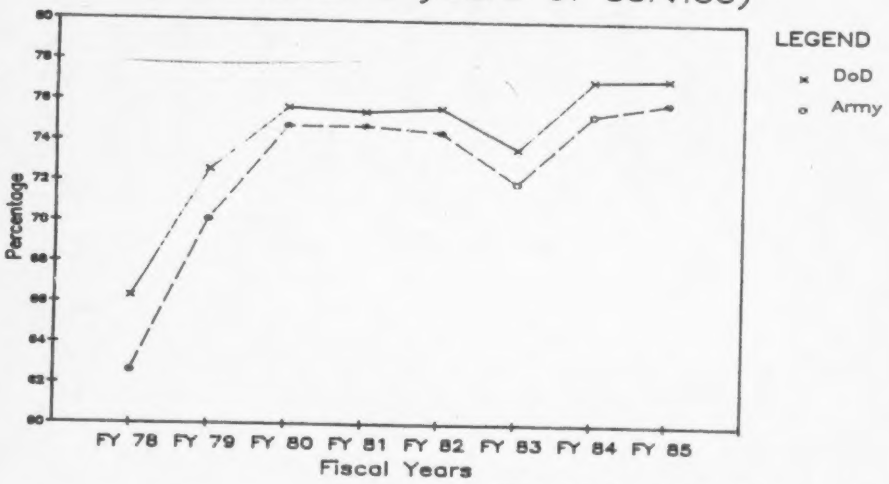
In order to verify our ability to notify IRR members and military retirees in the event of a mobilization or exercise, a study of the Mobilization Mailgram System was completed. The study revealed a substantial mismatch between DoD requirements and system capacity under peak mobilization conditions. However, a follow-up analysis based on voluntary improvements proposed by the Services and the commercial carrier reflects a significant increase in system capacity.

Recruitment and Retention

The ability of the reserve components to meet their strength goals is dependent in large part on their ability to control attrition. While unprogrammed attrition from the Selected Reserve continues at levels higher than we desire, between 1978 and 1985, the number of enlisted accessions (Non Prior Service plus Prior Service) for the reserve components increased by 14 percent. At the same time, end-strength increased by 38 percent. It is clear that much of the sustained growth in the Selected Reserve end-strength must be attributed to reduced attrition.



Among personnel with less than six years of service, improvement in continuation has been less uniform and we remain concerned with losses prior to completion of the initial term of service. The following shows continuation rates for individuals having less than six years of service between 1978 and 1985.

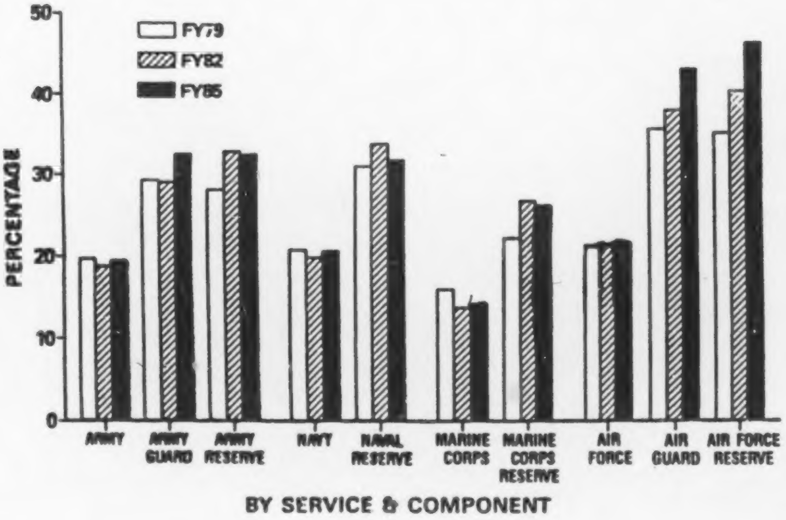


PERCENTAGE
CONTINUATION RATES
FOR SELECTED RESERVE*
(Less than 6 years of service)

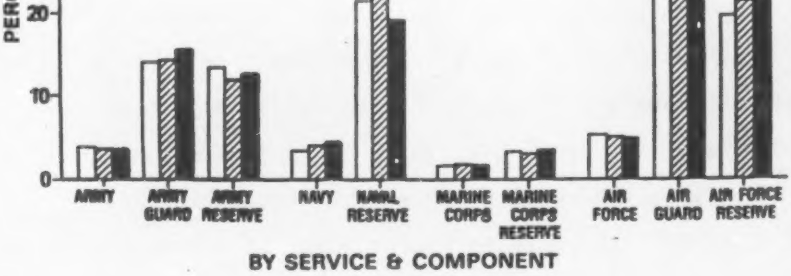
*Years of Service from Pay Entry Base Date

While reduced attrition has assisted us in meeting our end strength goals, it has created the problem of an aging force, as shown in the charts below. We are retaining more older people and aging the younger ones. The active components officer force has approximately 1 out of 5 (20%) officers over the age of 40, while the reserve components have approximately 2 out of 5 officers over the age of 40 (40%). A similar trend can be seen in the enlisted force with the active components having approximately 1 in 25 or 4% over the age of 40 while the reserve components have 4 in 25 or 16% over the age of 40.

OFFICER
PERCENT AGE 40 AND OVER

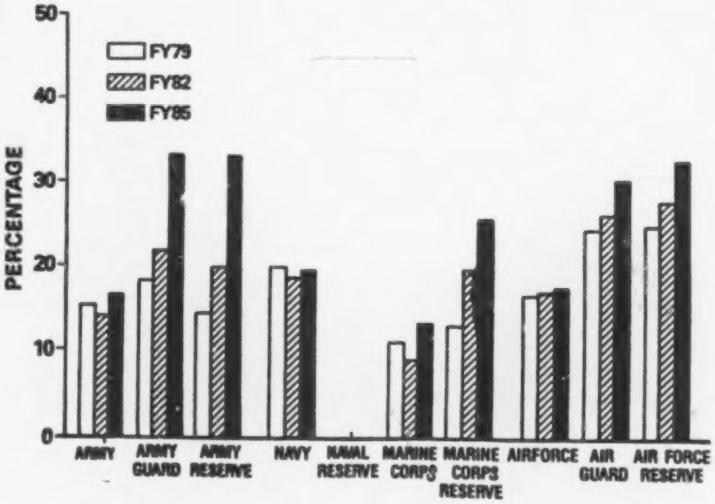


ENLISTED
PERCENT AGE 40 AND OVER



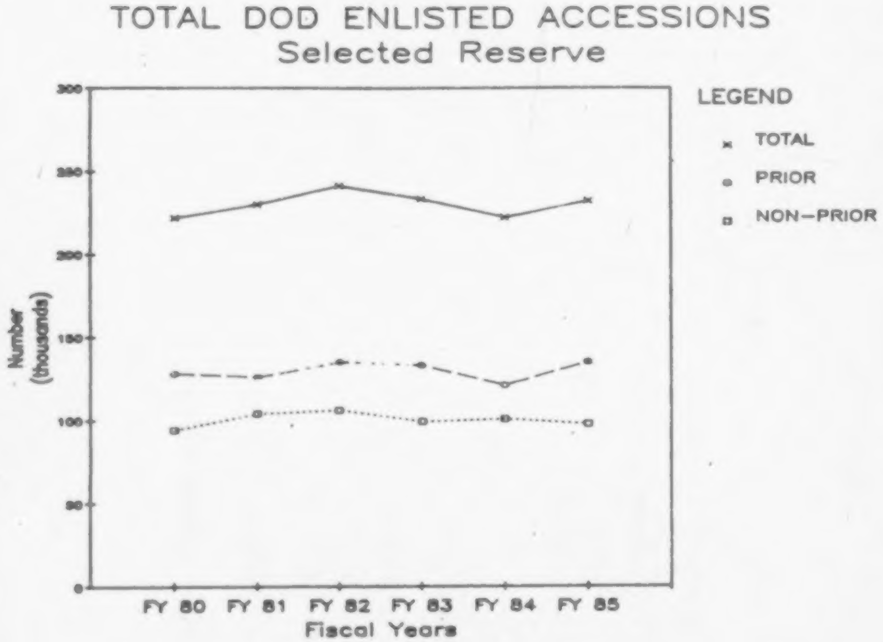
One of the significant problems of the aging force is the trend in the age of our pilots. The following chart shows the aging from FY 1979 to FY 1985 for both the active and reserve components. While the overall trend has seen an increase in the age of pilots in both the active and reserve forces, the trend has been more pronounced in the reserve components. In FY 1979, approximately 17% of the active force pilots were over the age of 40. This has increased to approximately 20% for FY 1985. In the reserve components, the percentage has increased from 31% in FY 1979 to approximately 40% for FY 1985. No specific data is available for the Naval Reserve due to lack of age statistics.

PILOTS
PERCENT AGE 40 AND OVER



We must carefully watch this aging trend to ensure that we maintain a viable force. In addition we must further develop our analysis to examine its impact in combat, combat support, and combat service support areas, and to assess the degradation of readiness that may accompany an increasingly older force. In this regard, this office will continue to monitor very closely the Army's over 40 screening program.

Since 1982, widespread expansion in the civilian economy and a decline in the size of the youth population have worked against recruiting and retention efforts undertaken by the reserve components. In the absence of any offsetting factors, these trends might have been expected to result in a substantial decline in the number and quality of non-prior service accessions. Instead, the number of non-prior service recruits has declined only slightly and we have continued to achieve our increasing total end-strength objectives.



In addition, the quality of accessions increased over the previous year. Eighty-eight percent of all enlistees were high school graduates compared to 85 percent in FY 1984. Eighty-nine percent scored average or above on the enlistment test (Categories I through III) matching FY 1984 results. Black enlistments accounted for 20 percent of all accessions, and women accounted for 12 percent. These proportions were approximately the same as in FY 1984. The following Table reflects the current profile of quality enlistments in the Selected Reserve.

Table 5

Selected Reserve Enlistments (DOD)
Quality Indicators

Quality Indicators	FY 1980 Number	FY 1980 Percent Of Total Enlistments	FY 1985 Number	FY 1985 Percent Of Total Enlistments
High School Graduates*	168,500	76	204,200	87.9
AFQT I-III**	172,200	78	207,300	89.2

* Includes equivalency certificate and diploma graduates, and best available estimates of those high school students who enlisted prior to their graduation and were expected to graduate.

** AFQT Categories I-III include enlistees who scored average or above on the enlistment test.

Impact of Recruiter Resources

Increases in the number of reserve component recruiters appears to have played a particularly important role. The number of recruiters increased by 15.3 percent between 1978 and 1982 and then rose by 42 percent between 1982 and 1985.

To verify our beliefs concerning the impact reserve component recruiters have had on the numbers of high school graduate non-prior service recruits accessed, the Rand Corporation is analyzing the character of Selected Reserve NPS accessions as well as the significant differences in the dynamics of active and reserve force recruiting of NPS members. This information will form a basis for use in forecasting future NPS accessions for the reserve components. Preliminary results from this analysis should be ready in June of this year.

The advertising program for the reserve components is built around a national advertising plan complemented by local advertising and active public service campaigns. Particularly important is the Joint Reserve recruiting advertising resources available to the reserve components. Approximately $8.0 million requested for this program in FY 1987 builds our advertising buying power to levels that permit an effective reserve component recruiting program, targeted particularly to the faltering non-prior service market.

Last November we transmitted to the House and Senate Committees on Armed Services a comprehensive report on recruiting and retention resources for the reserve components. Our study concluded that increased resources and expanded incentives, such as the reenlistment and affiliation bonus programs, have played a crucial role in enabling the reserve components to meet our increasing manpower requirements. The benefit to the Selected Reserve has been to produce longer and higher quality enlistments and reenlistments. The following Tables provide an overview of the Selected Reserve incentive program and funding levels.

Table 6

Selected Reserve Incentives

Enlistment Bonus	Educational Assistance*	Reenlistment**		Affiliation*** Bonus	Loan Repayment
		3 Yrs	6 Yrs		
Up to $2,000	Up to $4,000 for expenses incurred	$2,500	$5,000	$25/Month	15% or $500 of balance of loan for each year served

* The current Educational Assistance Program was suspended for 3-years coincident with the effective date of the Selected Reserve GI Bill on 1 July 1985.

**FY 86 Authorization Act increased the 3 year bonus amount from $900 to $2500 and the 6 year bonus amount from $1800 to $5000.

***FY 86 Authorization Act increased the bonus from $25 per month to up to $50 per month.

Table 7

Ready Reserve Incentive Program

(Thousands)

	FY 1985 Actual	FY 1986 Estimate*	FY 1987 Estimate*
Army National Guard	55,562	67,512	68,029
Army Reserve	23,152	31,955	34,087
Naval Reserve	5,561	11,413	11,257
Marine Corps Reserve	3,323	4,214	3,080
Air National Guard	7,372	8,353	8,937
Air Force Reserve	2,530	5,157	6,565
DoD	97,500	128,604	131,955

*Revised 86 Column, FY 1987 President's Budget

Last year, the Congress provided us with authority to continue our incentive programs through September 30, 1987. Also, a new prior service enlistment bonus was approved. Student loan repayment authorities were extended to health professional officers in the Selected Reserve who possess critical combat medical skills, and authority to offer a stipend to students in critical medical disciplines who affiliate with the Selected Reserve was approved.

The provisions contained in Public Law 99-145 for expansion of enlistment and reenlistment bonus ceilings, the new prior service bonus to attract veterans with critical skills, and the extension of loan repayment to officer personnel in the health professions will assist in meeting the growing Selected Reserve manpower requirements.

Program Initiatives

We are considering legislative proposals to pay a Selective Reenlistment Bonus (SRB) to Training and Administration of Reserves (TAR) and Active Guard/Reserve (AGR) members in designated high technology skills in high priority units. A special incentive pay for enlisted members of particularly hard-to-man units is also a part of our legislative program. The Navy plans to use this authority as an incentive for seagoing Naval Reservists.

Legislative Proposals

There are several important legislative proposals for your consideration:

Reserve Jurisdiction - Uniform Code of Military Justice

The 1984 Court of Military Appeals decision in the case of U.S. vs. Caputo, was the catalyst for this proposal and lends urgency to its early enactment. Caputo holds that any change in the duty status of a reservist (i.e., the end of a period of inactive duty training or completion of active duty for training) constitutes a break in service, and that personal and subject matter jurisdiction cannot be revived upon the reservist's subsequent return to an inactive or active duty status. This would require that all offenses under the Uniform Code of Military Justice (UCMJ) be processed during the inactive duty period or tour of active duty in which they were committed, or that an individual be held after such a period in order to prevent his or her "status" from being interrupted. We believe it is essential that the reserve components be subject to the same disciplinary standards as the active forces when they are in a duty status.

The proposed Reserve Jurisdiction Act provides that UCMJ jurisdiction at the time of commission of an offense may not be defeated by virtue of the termination of a period of active duty or inactive-duty training. It also eliminates the obsolete requirement that jurisdiction over offenses committed by reservists on inactive-duty training be conditioned on the voluntary acceptance of orders stipulating to such jurisdiction.

Reserve Officer Personnel Management Act

The second proposal deals with our system for managing reserve officer personnel. A comprehensive law providing the basis for the appointment and career management of reserve officers was first enacted in 1954. Only piecemeal adjustments to that legislation have been made during the ensuing 30 years. We have worked to produce a comprehensive Reserve Officer Personnel Management Act (ROPMA), designed to provide compatible personnel systems for all officers, whether on the active duty list, the reserve active duty list or the reserve active status list.

In December, we forwarded the ROPMA proposal to the Congress. I believe this important legislation deserves your early consideration. It will revise and update the laws which govern the appointment, promotion, separation and transfer to the Retired Reserve of reserve commissioned officers of the Army, Navy, Marine Corps and Air Force. It will also provide a system for long-range planning essential to providing reserve officers with attractive and meaningful careers, and to attract and retain officers of the proper age and grade, who possess the skills and experience the reserve components need.

Health and Disability Coverage

Finally, I continue to be concerned about the adequacy of current statutes regarding health and disability coverage for Guard and Reserve members. While important improvements have been made in recent years, benefits and entitlements for reservists vary by the type of orders, duty status and the period of time the member is ordered to active duty.

This issue has received some attention by all the Services in light of increased reliance on the reserve components in the Total Force and the participation of reservists in hostile fire operations in Grenada and Lebanon. Benefits and entitlements are specific by public law. Recent actions of the Congress have made progress in this area and we are considering the desirability of further legislative changes, as well as a common standard to be used by the Services in interpreting and administering regulations, to assure equal protection for all personnel.

A related concern is the protection of reservists who may be missing, detained, or held captive by a hostile force or in a foreign country. We are reviewing a legislative proposal to provide authority to call to, or continue on, active duty members who may be involved in such incidents while on training duty or enroute to or from such duty.

Family and Employer Support

We have continued our effort to assist the reserve components in communicating the vital role of the National Guard and Reserve to audiences including the active force, reserve component members and their families, employers, public opinion leaders and the general public.

Among the most important audiences are the families of National Guard and Reserve members. Family attitudes exert a major influence on the retention of military personnel. The 1986 Reserve Components Survey is now going to the field. In addition to important data relevant to compensation, entitlements, training and readiness, the resultant information will assist us in developing programs to improve family support and understanding, and as a result, improve retention. It will also give us needed planning data to ensure we can provide necessary support for Guard and Reserve families upon mobilization.

We have implemented the pre-enrollment of members of the Selected Reserve and their dependents into the Defense Enrollment Eligibility Reporting System, commonly known as DEERS. Phase I, which should be completed by the end of March 1986, involves 200,000 members of high priority units plus their dependents.

The pre-enrollment will ensure that family members of mobilized reservists have the proper medical benefits available to them, the same as active force dependents once mobilization begins.

Our National Committee for Employer Support of the Guard and Reserve has an established network of state-level committees and nationwide programs to gain and maintain public and employer awareness and support. Non-paid, volunteer membership on these committees now numbers over 3,000 and includes influential business, labor, and civic leaders.

The Committee directs a nationwide public service advertising program sponsored by the Advertising Council. This year, some 900 television and more than 5,000 radio stations will broadcast Public Service Announcements. Printed materials were furnished to more than 9,000 daily and weekly publications. Our 1986 advertising strategy will continue to focus on the contemporary roles and missions of the reserve components.

The 1985 Association Liaison/Exhibits Program provided employer support exhibits at 14 national and international professional and business association conferences. Special recognition presentations were made to chief executive and public relations officers of 22 major associations. The Direct Mail Information Program provided employer support information packets to many thousands of employers in selected states. Certificates of appreciation were presented to 13,500 employers nominated by their reserve component employees for their support of participation in the National Guard and Reserve. One hundred and sixty state Chairman's awards and 31 PRO PATRIA awards were presented to employers whose supportive efforts were exceptionally meritorious.

Existing evidence indicates that approximately one-third of the losses incurred by the National Guard and Reserves are the result of conflicts between reserve component military duty and the full-time civilian employment of Guardsmen and Reservists. The resultant reserve component losses increase costs and reduce readiness.

The National Committee's Ombudsman Program effectively resolved hundreds of employee/employer problems. There is close coordination with, and excellent support from, the U.S. Department of Labor. The employment protection programs administered by the Labor Department not only provide equity in accordance with statute and case law, but also show an enforcement presence that assists DoD in its recruitment efforts. We have assigned a reserve legal officer as liaison to the Department of Labor and assisted Labor in preparing supplemental guidelines on employment protection for reservists.

Improving the Readiness of the Reserve Components

One thing that became readily apparent to me after I took office is the need to determine and resolve conditions that cause or limit the readiness posture of the National Guard and Reserve. We are building a data base as a foundation for making such determinations by collecting information on the mobilization missions of National Guard and Reserve units, deployment requirements, and the time sensitive nature of these missions. In addition, we have developed an automated capability to examine and analyze the data in the Unit Status and Identity Report System. This data base enables us to identify areas causing degraded readiness and target resources to correct shortages and improve the capability of our units.

On the training aspect of readiness, we recognize that the reserve component training environment is quite different from that of the Active force.

A key to effective training in a part time and widely dispersed environment is the careful application of modern training devices and simulators that can be developed or tailored to provide realistic training for the reserve components. My goal in the application of training technology is to bring about an understanding of unique reserve component training needs within the government, the military, and the industrial training simulation development communities to ensure that the needs of the Guard and Reserve are fully met. To achieve this end, I have been successful, through membership on the Department of Defense Steering committee on Training and Training Technology, in establishing a subcommittee on Guard and Reserve Training. The function of the subcommittee will be to highlight and fully support research, development, and procurement of training technologies that will provide effective, state-of-the-art training for each of our reserve components in their respective training environments.

We also are presently undertaking our own study to develop a methodology to analyze and determine the reserve components' current and future requirements for training devices.

Early indications are that "arcade game" technologies have the potential to provide a "family" of low cost and versatile individual skill training devices for our armories and centers. In addition, I believe that unit-size simulators and devices must be developed and distributed to regional sites in order that effective maneuver training can be accomplished at acceptable cost.

Reserve Component Medical Readiness

The ability to respond quickly to a wartime casualty flow is one of the most serious concerns within the Department of Defense, and it has been the subject of much effort by the Assistant Secretary of Defense for Health Affairs and my office. Therefore, the final issue I would like to discuss today concerns medical readiness.

Medical readiness has been, and continues to be, one of my top priorities since reserve component resources comprise more than 50 percent of the Services' total medical capability in wartime. Many reserve component medical units have early deployment dates and must be available in-theater to treat the casualties expected in the initial phases of combat operations.

In addition, reserve component medical units and individuals not currently assigned to units would either deploy overseas or, in some cases, fill jobs vacated by deploying active force personnel.

My major concern is the mobilization potential and readiness status of reserve component medical units. Consequently, we have been working closely with Dr. Mayer and his staff to establish definitive wartime requirements for medical personnel, equipment, and evacuation needs under several different war scenarios. My office took the lead in a recent effort by the Department of Defense to reexamine present casualty estimate procedures, which impact directly on medical resource planning. The results of our work will be integrated with results of the congressionally directed blue ribbon medical resources study. We will then know more precisely how many guardsmen and reservists, by skill, must be available for wartime needs and should be presently assigned to medical units, and how many we can draw from the Individual Ready Reserve, Standby Reserve and Retired Reserve.

In addition to addressing estimates of total required medical resources, we are analyzing the reserve components' medical professionals. In support of this analytical effort, we have developed a computer data base to compare current wartime medical personnel requirements, peacetime manpower authorizations, and actual manning levels for reserve component medical units. This data base identifies specialties, specialty matches, attributes of skill levels, and shortages and overages. Initial results for the Army were available in December 1985, and we expect results for the other Services to be available later this year.

Although progress has been made to improve wartime medical readiness, much work is still needed to provide adequate medical support during a conflict requiring full mobilization. We will continue to work hard toward fulfilling our objectives in this key area.

Conclusion

In summary, today's National Guard and Reserve continue to assume an increasingly important role in our defense strategy. While some problems remain, I am confident that as we continue to improve the effectiveness of the National Guard and Reserve, we will be improving the total capability of this Nation's defense posture. That is, and must remain, our first and foremost aim.

Mr. Chairman this completes my testimony. I thank you once again for the opportunity you have given me to appear before this Committee today. I am prepared to answer questions.

JAMES H. WEBB, JR.
ASSISTANT SECRETARY OF DEFENSE (RESERVE AFFAIRS)

Mr. James H. Webb, Jr., presently serves as the first Assistant Secretary of Defense (Reserve Affairs), following his confirmation by the Senate on April 27, 1984.

Mr. Webb was born on February 9, 1946, in St. Joseph, Missouri. In 1968 he graduated from the U.S. Naval Academy with a B.S. (Engineering) and was one of 18 in his graduating class of 841 to be awarded the Superintendent's letter of commendation for outstanding leadership contributions. Commissioned in the Marine Corps, he was the honor graduate of his class of 243 members at the Marine Officers Basic School. He served with the 1st Battalion, 5th Marine Regiment in Vietnam as a rifle platoon and company commander, earning the Navy Cross, the Silver Star, two Bronze Star medal for valor and two Purple Hearts.

Mr. Webb earned his J.D. from the Georgetown Law Center in 1975, winning the Horan award for excellence in legal writing. While a student, he wrote his first book *Micronesia and U.S. Pacific Strategy*, and conducted a special twelve-week study for the Governor of Guam on U.S. strategy in the Pacific and its effect on land issues in the Mariana Islands.

After graduation he wrote full-time until 1977, publishing *Fields of Fire* (1978), a novel of ground combat in Vietnam. The book was nominated for a Pulitzer Prize and was a finalist in the Hemingway competition for outstanding first novels.

In January 1979, he became the first "visiting writer" at the U.S. Naval Academy, where he taught literature and lectured frequently on leadership and the role of the military in the U.S. society. During this time he completed his third book, *A Sense of Honor* (1981), a novel about the Naval Academy set in 1968.

Mr. Webb served as both Assistant Minority Counsel and as the Minority Counsel for House Veterans Affairs Committee. His work included direct liaison with the Department of Defense, Veterans Administration, Health and Human Services, and the Department of Labor on budget, oversight and legislation regarding military veterans.

In July 1981, Mr. Webb left Congress to write *A Country Such as This* (1983), which was nominated for a Pulitzer Prize and the Pen/Faulkner award. In addition to his books, his military writing has included topics on service roles and missions, the draft, strategy and tactics, key manpower issues, and U.S.-Japanese defense obligations.

He has lectured on leadership at numerous military schools and colleges and has made extensive radio, TV, and newspaper appearances on the topics of military manpower, veterans issues, politics and the Vietnam War, Lebanon and Grenada. He received an Emmy award from the National Academy of Television Arts and Sciences for his coverage of the U.S. Marines in Beirut for the McNeil-Lehrer News Hour in 1983.

Mr. Webb received the 1979 American Legion National Commander's Public Relations Award and in 1976 was the first recipient of the Vietnam Veterans Civic Council's Outstanding Veteran Award. Mr. Webb, his wife, JoAnn, and their children, Amy, Jimmy, Sarah, and Julie, reside in Arlington, Virginia.

IMPACT OF GRAMM-RUDMAN-HOLLINGS SEQUESTRATION ON RESERVE COMPONENT ACCOUNTS

MR. WEBB: Regarding your question concerning the impact of the fiscal year 1986 Gramm-Rudman-Hollings sequestration on the Reserve component accounts, the following information is provided:

Impact of fiscal year 1986 Gramm-Rudman-Hollings Sequestration on the United States Army Reserve:

Operation and Maintenance, Army Reserve Appropriation. Continental Army Management Information System (CAMIS). CAMIS cannot be executed this year. The impact is the inability to reprogram these funds to buy and reduce backlog of organizational clothing and equipment. -$14.9M.

Flying Hour Program. This program was decreased due to reduced rates and a reduction in hours resulting from program slippage. The impact is the denial of a reprogramming action to use the funds to buy organizational clothing and equipment. -$3.0M.

Army Continuing Education System (ACES). This is a new program whose implementation was delayed this year due to operating under continuing resolution authority (CRA) restrictions. Due to the late start, most of these funds were to be used to buy organizational clothing and equipment. -$3.0M.

Depot Maintenance. Most of this decrease is for crash site support. If this contingency should arise, it would be funded by reducing the equipment put in for depot maintenance. -$.5M.

Advertising and Recruiting Support. Reduces advertising to fiscal year 1985 levels. This may do some damage to the ability to take advantage of the presently good recruiting market. We will still meet the non-prior service (NPS) accession objective. -$2.0M.

Communications for CAMIS. As already indicated CAMIS cannot be executed this year. There is no substantial impact. -$.3M.

Base Operations and Maintenance and Repair of Real Property. There were across-the-board reductions. The final actual reductions by alpha account will be determined during the course of budget execution. -$14.5M.

Reserve Personnel, Army Appropriation. Individual Ready Reserve (IRR) Mobilization Training. The equivalent reduction in the number of participants is 5,847 (-3,581 officers and -2,266 enlisted). Primary mobilization training categories impacted are Exercises, IRR Mission Support, and Readiness Training. This will degrade the readiness of the IRR. -$25.0M.

Troop Program Unit (TPU) School Training. The equivalent reduction in the number of participants is 6,606 (-1,954 officers and -4,652 enlisted). Primary school training category impacted is Career Development with some potential impact on other school training categories such as Refresher and Proficiency Training. This will hamper the professional development of TPU members. -$8.3M.

Military construction, Army Reserve Appropriation. The major construction portion of the program has been reduced from $48.3M to $45.9M. To implement the reduction, each project was reduced by 4.9%. If the project can be awarded because the bid is within the reduced funding level or within the 20% reprogramming threshold and sufficient savings are available, the contract is awarded, otherwise the project will be down scooped and readvertised until a successful bid is received providing this procedure does not radically change the nature of the project Congress originally approved. To date, the only project that the Army Reserve is having to redesign is the Armed Forces Reserve Center project in Richmond, Virginia.

The design program was reduce from $9.6M to $9.2M. Reduced funding availability for major construction projects will require the immediate expenditure of additional funds to alter or redesign fiscal year 1986 projects to comply with tne reduced construction funding. An estimated additional 10 to 15 percent in design funds will have to be expended to accomplish this action. These funds will be diverted from the design of projects programmed for construction in subsequent years. This action will delay the design effort and reduce the accuracy of construction cost estimates for subsequent budgets.

National Guard and Reserve Equipment, Defense Appropriation. Reduction causes substantial delay in acquisition of certain mission essential tools and test equipment for Army Reserve combat service support units. The exact impact for fiscal year 1986 cannot yet be determined since the funds have been appropriated but not authorized. -$949K.

A detailed breakdown of the funding and program impact of FY 86 Gramm-Rudman-Hollings reductions on the Army National Guard is as follows:

TOTAL REDUCTIONS

NGPA $ 9.8M

- o Schools $ 4.5M
- o Special Training $ 5.3M
- o Reduction in schools decreases number of participants by 2,361.
- o Reduction in special training decreases number of participants by 3,685.

OMNG $79.7M

- o Training Operations $12.3M
  - oo Training Support
  - oo Training Aids
- o Logistical Support $59.4M
  - oo Repair Parts
  - oo Organizational Clothing and Equipment (OCE)
- o HQ and Command Support $ 7.0M
  - oo Advertising and Recruiting Support
  - oo ACES
- o Medical Support $ 1.0M
  - oo Medical Care
  - oo Medical Supplies
- o Decrease in training operations reduces Range Standardization Program by 855 Target Mechanisms and eliminates 13 states from participating. Reduces travel by up to 10% to training sites.
- o Decrease in Log support reduces total Repair Parts Total OCE Program by 9% and reduces funding ratio from 74% to 67%. Total OCE Program is reduced by 16%.
- o BMAR funding is reduced which increases backlog requirements approximately $8M by end of FY 86.
- o HQ and command support reduction decreases ACES Program by 9,800 courses, limits procurement of audio/visual projectors to 50% of requirements, and reduces travel up to 10%.

- o Medical support reduced $1 million. Reduces medical care and supplies.

MCNG		$ 5.0M
o Major Construction	$ 3.7M	
oo Each Project Cut $.9%		
o Minor Construction	$ .7M	
o Planning and Design	$ .6M	
o Construction may have to be austere, E.G., Sand parking lots, fencing, lights. etc.		
EQUIPMENT		$11.1M
TOTAL REDUCTION - ALL ARNG APPROPRIATIONS		$105.6M

Funding sequestration for Fiscal Year 1986 Naval Reserve appropriation is as follows:

Reserve Personnel, Navy	- $ 3.135 million
Operation and Maintenance, Navy Reserve	- 43.853 million
Military Construction, Naval Reserve	- 2.048 million

This sequestration will require a cut back in School/Special and Mobilization training for members of the Selected Reserve and Individual Ready Reserve. This loss of essential training will degrade our ability to prevent personnel skill degradation, allow hands-on training during special exercises, and provide transition training to newly acquired hardware. The sequestration will also require programmatic changes impacting on the operational training and readiness of the Naval Reserve. Although we cannot say at this point the specific degree of changes required, we know that reductions in flight hours, ship steaming days, depot maintenance, and maintenance of real property will be required. Current bid experience for the FY 1986 military construction projects is approximately 103 percent of estimate. Thus, the sequestration will require scope reductions and potential project cancellations.

The Marine Corps Reserve share of the FY 1986 Gramm-Rudman-Hollings sequestration was $4.1 million which impacted as follows:

Reserve Personnel, Marine Corps	- $ 1.3 million
Operation and Maintenance, Marine Corps Reserve	- $ 2.8 million

The $1.3 million reduction in the reserve personnel appropriations required reduced mobilization training for training Individual Ready Reservists, reduced skill requalification training for prior service personnel, and reduced special tour support of Selected Marine Corps Reserve unit training.

The $2.8 million reduction in the operation and maintenance appropriation will also require programmatic changes impacting on training and readiness of the Marine Corps Reserve. Although we cannot provide the exact details of reductions at this time, reductions are being imposed in planned acquisition of personal defense equipment (such as Kevlar Helmets, Lightweight Body Armor, and NBC Equipment), equipment maintenance, and other support functions.

The impact of the Gramm-Rudman-Hollings reduction for the Air National Guard O&M account amounted to $88.5 million. They were applied to each Budget Activity IAW DoD direction. This means our Mission Forces Activity, Depot Maintenance Activity and Other Support Activity were individually subjected to the 4.9% cut. The following chart depicts the GRH reductions:

Activity	TOA	GRH Cut	New TOA
Mission Force	$1,333.2M	$65.3M	$1,267.9M
Depot Maint	351.6M	17.2M	334.4M
Other Spt	121.4M	6.0M	115.4M
Total	$1,806.2M	$88.5M	$1,717.7M

These cuts were severe. The Air Guard is structured very differently from the active forces. The Air Guard has very little Base Operating support and Real Property Maintenance funds. These areas normally would be the first areas to be reduced to save the flying mission. The Air National Guard is flying hour and civilian pay intensive. Flying hour fuel and supplies, and civilian pay make up over 65% of the program versus about 28% on the active side. This forced a flying hour reduction of almost 20,000 hours or 4.4% (the Active force reduction was about 1%).

In Depot Maintenance we will be forced to defer programmed Depot Maintenance and speedline inputs which will create backlogs. This will result in reduced aircraft availability and a lack of spares to meet our peacetime and wartime requirements.

Overall, civilian pay is about 40% of the program while on the active side it is about 18%. We anticipate a furlough of about 2,000 people. In the Guard, almost all Civilian Pay is for military technicians who, on the active side, would be paid from the Military Personnel Appropriation. Military technicians wear the blue suit and keep the guard running on a day to day basis. Many maintain and fly aircraft. When mobilized for federal service these people are paid from the military personnel account. Compounding the problem is that civilian Pay makes up over 51% of funds allotted to our units. Units are staggering under impact of reductions in the $600K range per base. Their proposed alternative is to further reduce flying hours. Crew safety, C-Ratings, and readiness will deteriorate. Air Guard flying activity levels are already below that of our active counterparts. A typical Air Guard fighter crew will fly 10 to 12 hours per month. Their active counterparts will fly 19-20 hours per month. In addition, about 65% of our flying hours is in fighter type aircraft. The primary factor affecting fighter proficiency is flying time. The Air Guard has had a high experience level because a large source of our pilots is the active force. That advantage is quickly diminishing as Viet Nam era pilots retire and airlines hire to offset present pilot shortages.

Another complicating factor is the fact that numerous aircraft conversions have moved into FY 86 from the outyears that were not included in our FY 86 Budget submission. These include Jacksonville, FL (F-16's), Hicham, HI (F-15's), Dobbins, GA (F-15's), and Burlington, VT (F-16's). Also, the Air Guard Special Operation Force (SOF) unit at Harrisburg, PA was not exempt from GRH reductions when the baseline for the percentage reduction was reductions when the baseline for the percentage reduction was computed, yet the SOF must be fully funded.

In Military Personnel, the reduction was $3.9M in the special training area. Not a extremely critical impact, but readiness was affected. There was participation in TACS, Tanker, Fighter/RECCE, and communications oriented JCS exercises. Also, we decreased participation or cancelled four Red Flag, four Maple Flag, and one

Blue Flag exercises.

In Military Construction, the reduction was $11.0M. The 4.9% line item reduction effectively reduces the reprogramming threshold to 114% (placing all projects in greater risk of exceeding the acceptable bid limitations, i.e. 120% of 95% of PA = 114%). This lack of flexibility will generate a number of cost overruns, redesign efforts and reprogrammings which will adversely affect the program. Construction cost growth is expected to continue. Programmed amounts based upon the DoD construction pricing guidelines are expected to be on the low side of the actual bid awards. To execute projects, additional design funds will be necessary to redesign projects to satisfy reduced funding limits (FY 86 program almost completely designed). Redesign or reprogramming actions will delay project advertising and ultimately cause a degraded execution rate. Our most critical projects are in greater jeopardy of loss due to broken bids, other delays or eventual lack of funds. An approach that allows cancelling projects of lesser priority is preferable. Without any projected cost savings, some projects will ultimately have to be deferred. Less turmoil in the redesign and reprogramming process will allow a better execution rate and a more efficient use of funds.

In the Guard and Reserve Equipment account, the reduction was $12.0M. The ANG proposes to modify only one of three C-131 aircraft during FY 86, thereby saving $8.0 million. This allows us to initiate the Congressionally directed program at a reduced level pending outcome of a GAO study on the cost effectiveness and feasibility of modifying the ANG C-131 aircraft. The remainder of the reductions will be applied against other items of equipment by reducing quantities. Since this appropriation is not one the Guard budgets for, but one the Congress provides, the impact is that programs required by the Congress will not be executed at the Congressionally desired level.

The Fiscal Year 1986 Gramm-Rudman-Hollings sequestration will reduce the Air Force Reserve (USAFR) appropriations by the following amounts:

Appropriation	$ in Millions
Reserve Personnel, Air Force	$- 3.9
Operation and Maintenance, USAFR	$-44.2
Military Construction, USAFR	$- 4.7
Reserve Equipment, USAFR	$- 6.4
Total	$-59.2

The sequestration of $3.9 million in the Reserve Personnel, Air Force appropriation will reduce school training by approximately 16,000 mandays and special training by 16,500 mandays. Specific training that will be reduced includes Initial Skill Training, Refresher and Proficiency Training, Operational Training and Unit Conversion Training. Such reductions decrease mission readiness in existing units and delay attainment of combat ready status of new or converting Air Force Reserve units. These impacts are especially severe at the present time because the Air Force Reserve is gaining new aircraft such as C-5A's, C-141B's, F-16C/D's, an additional KC-10 Associate unit, and associated missions.

The impact of the $44.2 million sequestration in the Operation and Maintenance, USAFR appropriation is as follows:

Mission Area	$ in Millions
Flying Hours	$-13.7
Civilian Personnel	$- 8.2
Depot Maintenance	$- 8.0
Facilities Maintenance	$- 2.1
Supplies/Equipment	$- 5.3
Special Assignment Airlift Missions	$- 3.2
All Others	$- 3.7

a. Flying Hours. A reduction of 8,295 flying hours (6,806 USAFR equipped and 1,489 associate) or approximately five percent would degrade combat readiness and could effect flying safely. The Air Force Reserve's entire FY 1986) President's Budget request would have provided the minimum number of flying hours required to maintain combat readiness and flying safety. The decrease of 8,295 flying hours reduces the hours flown per month for each Reserve crew whose hours per month are already well below those flown by active force pilots.

b. Civilian Personnel. A reduction of 300 civilian personnel would have a particularly severe impact on the Air Force Reserve since over two-thirds of our fill time support civilians are Air Reserve Technicians (ARTs). ARTs are Reservists who as a condition of their employment, also serve as full-time civil service employees. During the week as civilian employees, they serve as full-time managers, administrators and trainers of Reservists in their respective units. During unit training periods they participate as Reservists with the same units. In the event of war, the ARTs would be subject to immediate mobilization with their unit. As such, they become the nucleus around which their units would be formed. A 300 space reduction in civilian manpower will jeopardize supporting the remaining flying hour program with a resultant adverse impact on training and further loss of war fighting capability of the Reserve force.

c. Depot Maintenance. Approximately 30% of the Depot Maintenance reduction is programmatically related to the flying hour decrease. Additionally, the reduction will generate shortages of engines and exchangeables which will eventually degrade readiness.

d. Facilities Maintenance. A reduction of $2.1 million in facilities maintenance by contract would defer planned projects to future years thereby increasing the backlog of maintenance and repair. Deferring projects to future years increases costs and, in some cases, results in deterioration of facilities to the stage of being non-repairable.

e. Supplies/Equipment. As a result of the $5.3 million reduction, ongoing conversions (F-16, C-5, C-141) and activations (KC-10, Civil Engineering Squadrons, Medical Service Units) will experience delays in receiving supplies and equipment. Shortfalls in these critical areas will degrade long-term readiness and capability.

f. Special Assignment Airlift Missions. Reduction will cancel unit deployments which defers wartime training that in turn degraded readiness and capability.

The impact of Gramm-Rudman-Hollings on USAFR Military Construction is a sequestration of $3.1 million in FY 1986 Budget Authority and $1.6 million in prior year unobligated balances.

Unfortunately, the reduction is in addition to a General Reduction of $5.0 million levied by the FY 86 MilCon Appropriation Bill. The net effect is a 12.7% reduction in the money available for our FY 86 major construction program. To achieve the necessary savings, the bids on each project should average approximately 87% of the approved Programmed Amounts. On our first eight bids, we've averaged 103% of the Programmed Amounts, a net difference of 16%. We are taking management actions where possible to reverse the trend and achieve the necessary savings but 100% execution on 87% funding is virtually an impossible task. The end result will be delays or deferrals for badly needed projects that are required for operational support of new missions being transferred to the Air Force Reserve.

The $6.4 million sequestration in the Reserve Equipment appropriation will further delay equipment purchases that will improve the operational readiness, mission effectiveness and combat capability of the Air Force Reserve.

PERCENTAGE OF EQUIPMENT ON HAND FOR GUARD AND RESERVE UNITS

Senator ANDREWS. Mr. Secretary, before I turn to your fellow members of the Guard and Reserve, I pointed out that the decrease in funding from fiscal 1986 is largely explained by the absence of a separate request for Guard and Reserve equipment.

What percentage of the equipment is on hand for the Army units and Navy units and the Air Guard units at the present time?

Mr. WEBB. The best indicator we have, Mr. Chairman, at the OSD level—and I would invite any of the component chiefs to elaborate on this—comes from the Guard and Reserve equipment report which we furnish to the Congress annually.

Component by component we have for the Army Guard 71 percent fill by value of the selected items in our report.

Senator ANDREWS. What is the dollar value amount that would equal the amount that would make those units combat ready?

Mr. WEBB. At our current fill rates, by 1989 we will have an $11 billion shortage for all the components.

Senator ANDREWS. To make all of your units combat ready?

Mr. WEBB. Yes. Well, to have a full war readiness fill, we are $11 billion short.

I would also point out that the Active Army is considerably short also.

Senator ANDREWS. We have seen a number of different examples. At one point in time I saw a statement that our average ground, Guard, and Reserve units only had about 35 percent of the equipment on hand that the table of organization would indicate was necessary to be combat ready.

Is that figure true? Is it fraud? If it is fraud, what is the more accurate figure?

Mr. WEBB. I think you will have to examine different units with the different missions. I do not think there is an average number like that.

I would invite any of the component chiefs to comment on that.

READINESS ESTIMATE FOR ARMY NATIONAL GUARD

Senator ANDREWS. General Walker, do you have any guesstimate?

General WALKER. Sir, I do not consider mine a guesstimate. Our wartime equipment fill at this time is 64 percent.

Senator ANDREWS. In other words, you have 64 percent on hand?

General WALKER. We alone need $10.2 billion worth of equipment for the Army National Guard according to today's pricing guides.

Senator ANDREWS. For the Army?

General WALKER. Yes, sir, that is for the Army Guard.

General BERKMAN. For the Army Reserve the equipment shortage of wartime requirements by dollar value is, as Secretary Webb reported, approximately 30 percent.

I have an interesting figure that to bring some 820 Army Reserve units from C–4 up to C–3 on major end items would cost $1.5 billion.

AIR GUARD READINESS

Senator ANDREWS. How are we doing in the Air Force?

General CONAWAY. In the Air Guard to bring all our equipment up to full readiness is about $950 million. Just under a billion dollars.

Senator ANDREWS. Any other components?

We are adding.

MARINE CORPS RESERVE

General BUEHL. Right now we are standing at 45-percent equipment availability, but it is remarkable to know that through programming and with your support we will go to 93-percent availability next year on the basis of the 1987 budget. That is $183 million right there.

We expect to reach by the fiscal year 1989 essentially our full complement for current programming. We will approach 100-percent equipment availability by then.

Mr. WEBB. If I may make a clarification, Mr. Chairman, when I said $11 billion, I was talking about our equipment report which is selected items, not across the board. I was attempting to show evidence that the equipment that has been procured is reaching the units.

You asked me to go down unit by unit in the equipment report. I began to do that. For instance, the figures that the Marine Corps just used are demonstrated in the report as are the others.

So, I do not believe that I was attempting to mislead you or quoting figures that are different from anything else you are giving us.

Senator ANDREWS. No one is misleading anyone. The reason this committee is interested is, as you know, personnel costs are virtually 50 percent of the DoD budget. This country gained its freedom because of the militia. It has been dependent on the Guard and Reserve forces in the major wars through history.

When we did not use them during Vietnam, we suffered perhaps our greatest setback. We think it is highly cost effective to make sure our Guard and Reserve are ready to go and, perhaps, use those personnel instead of some active duty personnel.

That is why we want to get a firm fix on how much we have on hand as far as equipment, so that we can tell whether the Guard and Reserve are, indeed, and in fact, ready to go.

We are told that $843 million of last year's add-on is considered as unauthorized.

FISCAL YEAR 1986 SUPPLEMENTAL

What is your prognosis of a supplemental fiscal year 1986 authorization?

Mr. WEBB. As you know, that is tied up by the words in the law in the Appropriations Act. All DOD moneys which were appropriated are subject to a passage in the Appropriations Act which requires a reprogramming of the authorization process.

We have been tracking that with the OSD Comptroller. We are comfortable that those moneys are going to be authorized.

Senator ANDREWS. For the Guard?

Mr. WEBB. For the Guard and the Reserve.

Senator ANDREWS. How important is it to get that equipment?

Mr. WEBB. I believe it is very important. As a matter of fact, we have been working in my office in areas where we might be able to target that equipment, particularly into early deploying units where the percentage of equipment fill would not allow them to do their mission.

Senator ANDREWS. Senator Stennis.

Senator STENNIS. Mr. Chairman, if you will yield to me for just a minute on that.

AUTHORIZATION OF ITEMS

We had a lot of discussion last year on the authorization of several items, not just this one.

Mr. Webb, I think your group ought to prepare now and have an official recommendation for the authorization of this money.

It has been recommended and it has been recognized, Mr. Chairman, and I think the report calls for it. But this authorization question will come up again. We ought to have a recommendation of some kind from the military officials, otherwise, it could get lost.

You need this money, is that correct, now?

Mr. WEBB. Yes, sir.

Senator STENNIS. You actually need it?

Mr. WEBB. Yes, sir. The money will be used. Your committee report directs that each of the Reserve component chiefs report to this committee within a certain number of days as to where this money is going to be spent.

Senator STENNIS. You go ahead and work for it, frankly, and ask for it and be prepared if you get the money. There is a big scramble over here for money. Do not assume now that things are going to be all right. You want to present this at every chance you have and get an official affirmative request for it to be authorized.

Mr. WEBB. We are tracking this through the OSD process.

Senator STENNIS. How can we get the money, Mr. Chairman, if it is not authorized?

Senator ANDREWS. You make an excellent point. The thing I would hope the Secretary would share with us is, is there an official request in writing at this time?

So far we have defined it as sort of rattling around in the back room. Do we have an official request from the administration for this authorization clearance because of the extreme necessity for these funds that you just pointed out to us, or are we still talking about some nebulous hope that, yes, that authorization will be granted because it is so highly critical?

Mr. WEBB. I can assure you, Mr. Chairman, this has nothing to do with nebulous hope. What has happened is that in the DOD appropriations process as a whole there were a number of mismatches which the language of the appropriations bill required to be authorized.

The OSD Comptroller is working on the entire package. We are one piece of it. We are tracking it and I am confident that will be over to the committee.

Senator ANDREWS. But you have not sent that formal request yet to the committee?

Mr. WEBB. We have not because it will be a part of the overall reprogramming request to the authorizing committee which is what the law directs.

Senator ANDREWS. What date do you estimate the reprogramming request will be here?

Mr. WEBB. I cannot give you an estimate.

Senator STENNIS. Mr. Chairman, if I may ask General Walker a question.

General Walker, there is a chance to testify here directly on the need for this money. I think we can get it straightened out, but do not think you can ride through without an authorization.

General WALKER. There is no doubt about the need. I quoted requirements for the Army Guard earlier and General Conaway quoted requirements for the Air National Guard earlier.

When you only have about 64 percent of your wartime required equipment, certainly it is needed. This money you appropriated, but did not authorize last year, is very vital to us to increase the readiness of the Army and Air Guard. It is very vital to us.

Senator STENNIS. This is not the only way to measure things, but for fiscal year 1987 the total DoD budget request increases by 11.9 percent, while the Reserve components budget declines by 6.2 percent.

Now, what does that do to you? What does that do with reference to your effectiveness now and your plans for the more immediate years ahead?

General WALKER. These are figures with which I am not acquainted. Until I have had a chance to look at that, I would rather not comment. I have not heard those figures before.

To my knowledge, sir, our budget is really not cut. When it comes to applying the Gramm-Rudman-Hollings reductions, that is a different story. But I am not aware of a big cut in the budget as submitted.

Senator STEVENS. I apologize for being late. I was chairing another meeting of the Office of Technology Assessment. I could not be here for the opening of the hearing. I thank you all for proceeding.

Let me inquire how far along are we on the statements of witnesses?

Senator ANDREWS. Mr. Chairman, we have not had statements from the backup witnesses yet.

Senator STEVENS. Mr. Secretary, you have delivered your statement?

Mr. WEBB. Yes, sir, and we had a series of questions regarding equipment.

NATIONAL GUARD BUREAU

STATEMENT OF LT. GEN. EMMETT WALKER

Senator STEVENS. General Walker, have you presented your statement?

General WALKER. I have not. I realize you are pushed for time. I will do all I can to help you on that.

Mr. Chairman, thank you again for allowing us to appear. We have had another outstanding year. Certainly we have shortages and shortcomings, but we have made real progress.

GUARD PARTICIPATION IN CENTRAL AMERICA

There is one point I want to discuss specifically with this committee, sir, and that is what I am sure you have heard about the Guard's participation in Central America and some of the half-truths and some total untruths that have been said about that.

We are in Central America to do our mission and that is to train troops, train American troops. I want to go on record here to say any remarks other than that are very doubtful as to their authenticity.

Rather than take any more time, I will just say to you we appreciate the support of this Committee and we ask for your continued support.

We, hopefully, are ready to answer your questions.

[The statement of General Walker follows:]

PREPARED STATEMENT OF LT. GEN. EMMETT H. WALKER, JR.
CHIEF
NATIONAL GUARD BUREAU

INTRODUCTION

The Army and Air National Guard today contribute a major portion of the U.S. conventional defense capability. Never before in its 350 year history has the Guard been so well trained, equipped and manned. The major improvements in these key readiness areas are directly attributable to increased Congressional support, OSD oversight of the Total Force Policy and Army and Air Force modernization initiatives. The increased resourcing we have received is the cause and result of the continuous growth in Guard missions and responsibilities.

The focus of our efforts during the past year, and looking into the future, is to recruit and retain a high quality, professional force, to use training time to the best possible advantage and to make the most of every defense dollar we spend to equip and train the Guard. We continue to work to ensure that no Army or Air Guard member on any future battlefield would have cause to say "Had only I been better trained, equipped or led...." This is the challenge we have accepted and the charge we work to uphold.

Army and Air Guard units have deployed worldwide in the past year and trained side-by-side with their active component counterparts. These deployments have included JCS exercises, support to active component missions and units and real-time, real-world missions. In virtually every case, the Guardmembers have met or exceeded the mission requirements and have returned home with a tangible sense of accomplishment and contribution.

Our Army and Air Guard members are some of America's finest citizens. They continue to prove that with proper leadership, resourcing and family and employer support, they can and will perform any mission assigned. They are truly citizens, soldiers, patriots.

STATE MISSION

The National Guard is the only dual missioned force among the services. Our primary mission, like that of the other components, is to be able, if called, to mobilize, deploy, fight and win. Our second mission, the state mission, is what makes us unique. The state mission requires the Guard to be able to answer the call of the respective Governors in responding to emergencies throughout the states and territories, assisting in the preservation and protection of life, property and public order. The National Guard responded to a multitude of emergencies throughout the states and territories during FY 85. Forty-eight governors called upon the Guard for 614 separate call-ups in response to such diverse natural conditions as severe cold, snow, floods, tornados and forest fires. Manmade problems required Guard assistance in meeting the threats of chemical spills, emergency power supply, housing of the homeless and search and rescue. FY 85 also saw an increase in Guard involvement in efforts by law enforcement agencies to stem the tide of drugs and controlled substances which pose a very real and extremely insidious threat to our nation. National Guard response to these emergencies involved more than 20,731 Guardmembers using approximately 124,561 workdays at a cost to the respective states of approximately $8 million. The volume and diversity of these requests represent, in my opinion, a note of confidence in the ability, professionalism and dedication of the men and women of the National Guard by both civic officials and the community at large.

FEDERAL MISSION

ARMY GUARD ORGANIZATION

Forty five percent of the combat units and 20 percent of the support forces within the Total Army are provided by the Army National Guard. Major unit contributions to the Total Army force structure include ten divisions, fourteen separate brigades, four armored cavalry regiments, an infantry scout group, two special forces groups, four roundout brigades and seven roundout battalions. Roundout units provide the force structure essential to an Active Component division to fill it to full combat strength. In the event of full mobilization, 18 of 28 Army divisions would be furnished wholly or in part by the ARNG.

Significant force structure actions in FY 85 and FY 86 continue to revolve around the organization of our two new divisions, the 35th Infantry Division (Mechanized), headquartered at Ft Leavenworth, KS, and the 29th Infantry Division (Light) headquartered at Ft. Belvoir, VA. Both organizations will continue the formation process as units are added and converted to meet divisional needs.

During FY 85, we also completed the organization of the Army's only Mountain Battalion (VTARNG) and its only operational all weather, short range air defense unit, the NMARNG Roland Battalion.

Several major actions were started in FY 85 and will continue in the future. These include conversion of three heavy divisions to Division 86 organizations and significant aviation force modernization across almost all organizational levels. Additionally, several of our separate brigades will assume new or modified roundout/roundup tasks to meet total Army needs.

AIR GUARD ORGANIZATION

The Air National Guard (ANG) has more than 1700 aircraft and almost 110,000 people in uniform throughout the world. The members of our 91 flying units and 244 mission support units constitute a capable and ready force performing not only the traditional "weekend" training duty but shouldering an increasing amount of the day-to-day business of the Air Force. The ANG, now involved daily in worldwide Air Force missions to include aerial refueling, air defense and tactical and strategic airlift, is considered an equal partner with the active Air Force in the total Air Force.

ANG FORCE STRUCTURE

While the ANG organizational structure remains stable in FY 86 and FY 87 at 24 wings, 67 groups 91 flying units, a substantial number of force structure changes will take place. Significant quality and effectiveness changes will be the rule as we utilize three methods to modernize and enhance the capabilities of the ANG. In FY 86, we are seeing our first F-15 units in Louisiana and Georgia, our first C-141 unit in Mississippi, and our 2nd and 3rd F-16 units in Texas and Vermont. In FY 87, we continue modernization with conversions to F-15s in Hawaii and F-16s in Florida and Massachusetts. We will also convert our Little Rock unit from KC-135s to C-130s.

Additionally, 6 units in FY 86 and 5 units in FY 87 will have series changes where they will receive newer models of the aircraft now assigned to the units.

A third category of change will increase the numbers of aircraft assigned to a unit by a process called "robusting". From FY 86 to FY 87, the Tucson, AZ F-16 Training Unit will robust from 0 to 18 aircraft and the Boise, ID RF-4C Training Unit will robust from 6 to 12 aircraft. The St. Louis, MO unit will expand from 18 to 24 F-4Es in FY 86. FY 87 has an ambitious schedule as 7 other units will robust their aircraft fleets. Units being robusted in FY 87 are New Orleans, LA; Charlotte, NC; Martinsburg and Charleston, WV; Jackson, MS; and Stewart Airport, NY. The ANG will also activate an additional flying squadron at Eielson AFB, AK. These efforts are testimony to the increasing importance of the ANG which will in FY87 contribute 73% of the total Air Force air defense interceptor forces, 52% of tactical reconnaissance, 34% of tactical airlift, 25% of tactical fighters, 17% of aerial refueling, 13% of rescue and recovery forces, 14% of special operations forces, 24% of tactical air support forces and 4% of strategic airlift forces.

Of equal importance is the contribution of our mission support units. Our 244 independent units are heavily concentrated in the areas of base fixed communications, combat communications, weather, tactical control engineering installation, civil engineering and medical. Two hundred and ninety-eight mission support units are located with our flying units with primarily medical, civil engineering, security, and aerial port responsibilities. In FY 86, the ANG will possess 65% of the Air Force combat communication forces, 55% of engineering and installation forces, 55% of tactical weapons control, 10% of the weather reporting and forecasting forces, 72% of the aircraft control and warning forces, 12% of the aerial port capability and 30% of the civil engineering forces.

MANNING THE ARMY GUARD

The Army Guard is at an all time record strength level for peacetime. FY 85 opened with a record paid end strength of over 434,000 and closed just short of 440,000. That represents 100.4% of our projected strength, 99.8% of the force structure allowance and 94.2% of wartime required strength. Commissioned/warrant officer strength was at 96.8% of projections at 42,340 while enlisted strength was 100.8% at 397,612. The net gain of 5,693 end strength over FY 84 was the result of aggressive and successful recruiting and retention efforts. The challenge of a FY 86 end strength of 450,496 demands increased commitment on our part at every level of leadership to the dual responsibilities of recruiting and, perhaps more importantly, retention. We simply cannot afford, from a financial or effectiveness viewpoint, to lose trained individuals at the end of their commitment. Our efforts will concentrate on convincing every leader at every level of the critical importance of the retention effort. Areas of special emphasis will include increased chain of command involvement and revitalization of sponsorship programs.

Officer end strength was the highest level achieved in the history of the ARNG but chronic shortages of special branch officers (medical doctors, nurses and chaplains) remain.

Innovative programs are helping us achieve our officer recruitment goals. These include our Simultaneous Membership Program (SMP) which allows concurrent ARNG and ROTC membership and the ROTC Reserve Forces Duty Scholarships. State officer Candidate Schools continue to be the most reliable source of ARNG career offices with 28% or 1,147 of our second lieutenants entering the system through that means.

Enlisted personnel gains totalled 82,952 representing 95.4% of the FY 85 objective. Non prior service enlistments totalled 39,410 while prior service members numbered 43,542.

The quality of our enlisted force remains high. While the Congressional ceiling of 20% Test Score Category (TSC) IV remained, ARNG non prior service accessions in that category were 10.8%

Additionally, 75.7% of accessions were high school diploma graduates exceeding our own goal of 72%. These figures do not include General Educational Development (GED) enlistments who are considered to be non high school graduates.

Minority strength at the end of the fiscal year numbered 112,097 or 25.5% of total paid strength. Black strength posted gains for FY 85 with blacks now representing 4.8% of total officer strength and 18.5% of total enlisted for a 17.2% share of the total paid strength. Female strength increased slightly and now comprises 22,795 or 5.2% of total paid strength. Sixty-six percent of all positions in the ARNG are closed to females by the Direct Combat Probability Code policy but there is still room for growth in our female strength as evidence by the fact that of the positions open to females in the grades of E4 and below only 43% are filled by enlisted women.

The complexity of the modern battlefield requires educated soldiers and leaders. A program providing educational assistance for Army Guard soldiers is the Army Continuing Education System (ACES). ACES was extended to the Army Guard during FY 86 as part of a Total Army program providing educational opportunities such as basic skills, high school completion, and part time college programs not covered under the New GI Bill. Individuals receiving benefits under the New GI Bill are not authorized to receive ACES benefits, and conversely, those receiving ACES benefits cannot at the same time receive benefits under the New GI Bill. Commissioned officers utilizing ACES tuition assistance incur a four year Selected Reserve obligation following the last class taken.

We are also demanding more of our officers. A sliding requirement scale of college level credits is now mandatory for appointment, advancement and retention.

Another program which has proven itself in terms of enhancing the experience and quality of the Army National Guard officer corps is the Captains to Europe, Panama, and Korea Program. This program, now in its fifth year, continues to provide ARNG officers with active duty experience in an overseas theater. Following either a one or three year tour of duty, the officer returns to the Army Guard with valuable experience. During FY 85, 80 officers participated in the program. A total of 19 new officers entered the program and 26 returned to their Army Guard assignments. Department of the Army has recently revised the criteria for participation in this program which will allow first lieutenants to apply. This change should increase participation in the program and enable the Army National Guard to utilize the 160 positions allocated for this program.

ARMY GUARD FULL TIME SUPPORT

The continuing emphasis on transforming the ARNG into a fully trained and equipped, modern, deployable force has necessitated growth in our full-time support personnel force. At the end of FY 85, we were at 63% of FY 85 required full-time strength. In FY 86, we will be authorized 68% of FY 86 requirements and in FY 87 we seek increases to attain the 76% level. These increases will allow us to successfully meet the training and support levels dictated by our continually escalating role in Army and Defense plans.

MANNING THE AIR GUARD

The end of FY 85 saw the highest end strength by the ANG in its history - 109,398. For FY 86, the programmed end strength is 110,859 with a funded average of 109,100. FY 87 programmed end strength is 115,200 and a funded average of 113,100.

Although we have exceeded our programmed end strength, vacancies still exist in critical skills such as aircraft maintenance, medical, armaments, civil engineering and security police. Of the 10% overall growth in the ANG by FY 1991, 45% will take place in these hard to fill fields. This emphasizes the importance of not only a precision recruiting approach but also retention efforts. A full-time retention force continues to pay dividends as losses, as a percent of overall strength, fell again for the seventh straight year.

The ANG is highly dependent on personnel who are competent and reliable. Our 60 percent prior service/40 percent non prior service mix has served us well over the past 6 years by retaining maturity and experience in the force while reducing basic military training and initial technical skills training costs.

At the end of FY 85, females accounted for 11.2% of the ANG force and accession of females was at a 16.5% share of total accessions.

AIR GUARD FULL TIME SUPPORT

In FY 85, the Air Guard exceeded its combined military technician and full-time military (AGR) end strengths. In FY 1986, we expect to fully meet our full-time end strength programs which are 1,021 higher than FY 85 actuals. In FY 87, our full-time personnel growth is made up of 290 technicians and 1,087 AGR's for a total of 1,377. This growth supports force structure, equipment and mission changes.

Future manpower growth will contain a mix of technicians and AGR personnel. This mix wil be determined based on themissions to be performed. The majority of our maintenance and support personnel are currently technicians and this type growth will be programmed as technicians in the future. Security, field training sites, ranges, detached alerts, aircraft operations, recruiting, retention and similar type programs which are military in nature will be programmed as AGR. We anticipate that our full-time force will contain approximately 75 percent technicians and 25 percent AGR.

EQUIPPING AND SUSTAINING THE ARMY GUARD

Modern, high technology, production line new equipment is being provided to the ARNG by the Congress, DOD and the Department of the Army. But at the end of FY 85 the ARNG has only 64% of the equipment it needs to go to war. We feel ethically compelled to not ask American soldiers to fight without giving them all the resources they need to survive and win.

We are in the best peacetime equipment shape we've ever been in, but critical shortages remain. Our highest priority shortages are in air defense artillery, communications, electronics, aviation, field artillery and medical equipment.

A 1984 proposal to accelerate modernization of the ARNG armor force has resulted in a target of mid FY 91 for the total equipping of the ARNG with M1 and M60A3 tanks. An aggressive New Equipment Training (NET) Program was initiated to qualify these crews in the quickest, most efficient manner possible and has been highly successful to date.

Accelerated fielding of field artillery systems is continuing. The automation of our fire direction capabilities is continuing but modernization of our artillery weapons systems remains a challenge with severe shortages in the M198 howitzer and an absence of planning for fielding the MLRS (Multiple Launch Rocket System) to the nine ARNG non-light divisions while it goes to Active Army divisions.

In FY 85, DA distributed equipment worth $1.4 billion to the ARNG. This included the M1 tank, Bradley Fighting Vehicles, Improved TOW Vehicle, M198 Howitzer, and Roland Air Defense system. DA projects equipment deliveries to the ARNG of $1.4 billion in FY 86 and $1.7 billion in FY 87. In addition to follow-on deliveries of the above equipment, new materiel scheduled for delivery in the FY 86-87 timeframe include M60A3 tanks, High Mobility Multipurpose Wheeled Vehicle (HMMWV), FISTV, Heavy Expanded Mobility Tactical Truck (HEMMT) and Chaparral.

DA procured $1.4 billion of equipment for the ARNG in FY 85 and projects procurement of $1.1 billion in FY 86 and $825 million in FY 87. Delivery timeframe for this equipment will be FY 86-90.

Congress has provided a separate appropriation since FY 82 to support procurement of miscellaneous equipment. The $350 million appropriated from FY 82 through FY 85 has been used to improve near term readiness in early deploying units. In FY 86, Congress provided a separate appropriation of $531.8 million for equipment procurement which will be used for combat and support equipment.

ARMY GUARD AVIATION EQUIPMENT

In FY 86, the ARNG has a requirement for 484 attack aircraft. At the end of FY 85, we had on hand 122 AH-1's and

214 UH-1M's. In FY 86, an additional 60 AH-1's will be fielded in the ARNG. Attack helicopter requirements increase to 580 in FY 87 due to ARNG aviation force structure changes. A total of 109 AH-1S's are projected for fielding in FY 87.

The first battalion of AH-64 Apache helicopters will be fielded in the North Carolina ARNG in FY 87 as a result of a Congressionally directed procurement in FY 85.

Fielding of UH-60 Blackhawk helicopters was initiated in FY 83 with the delivery of 2 aircraft each to aviation maintenance units in Ohio and Kentucky. In FY 86, 22 UH-60's will be added to our inventory. Fifteen UH-60's are projected for fielding to units in Virginia and Kentucky in FY 87. At the end of FY 87, we will have a total of 41 UH-60's on hand against a total requirement for 91.

Our medium lift helicopter capability has been enhanced by the addition of 11 CH-47C aircraft procured from the Italian Agusta Aircraft Company as the result of FY 85 Congressional action. these aircraft have been converted to United States standards and incorporate state-of-the-art technology which will improve mission capability.

Twelve C-12 administrative support fixed wing aircraft, procured for the Army Guard by Congress in FY 85 and FY 86, will be delivered beginning in FY 86. The addition of these aircraft will increase our total C-12 inventory to 24 by the end of FY 87.

AIR DEFENSE EQUIPMENT

The Army National Guard is currently organized with seven battalions of Korean War vintage M42 (Duster) Air Defense Artillery (ADA) and one Chaparral battalion supporting eight Army Guard divisions. Additionally, we have one U.S. Roland battalion, a corps level unit that is the only unit of its type in the Total Force. The present force modernization plan replaces our Duster units during the period FY 86-91. Three of our Duster battalions will convert to Chaparral organizations. The ARNG will then have a total of four Chaparral battalions. The remaining Duster units will be reorganized as modern ADA equipment becomes available. Our ADA force will increase in the future with the activation of six divisional battalions, two units for the newest Army Guard divisions and four units to provide replacement for the Chaparral units which will become corps level battalions. By the mid 1990s, the Army Guard ADA force will consist of ten divisional ADA battalions, six Chaparral battalions, and three Hawk battalions. Existing requirements for activation and equipping of ADA units for our Armored Cavalry Regiments and separate brigades will remain for the foreseeable future. Modernization of our air defense capability continues to be our highest priority.

ARMY GUARD COMMUNICATIONS-ELECTRONIC EQUIPMENT

In May 1985, Texas' 49th Armored Division's signal battalion was the first Army National Guard divisional signal battalion to receive the modern multichannel Army Tactical Area Communication Systems (ATACS). ATACS systems were procured with funds made available by Congress for communications equipment in the late 1970s. After receiving this equipment, the signal battalion supported the entire division with reliable, effective, and secure communications during annual training 85. Two more Army Guard divisional signal battalions will receive ATACS in FY 86 with our remaining signal battalions programmed to receive ATACS by the end of FY 87.

Battlefield Communications Review places Army Guard divisional signal battalions and corps Mobile Subscriber Equipment (MSE) battalions in a position to be fielded MSE at the same time as the active units with which they are aligned for combat. This will result in greatly improved interoperability, capability, and compatibility of equipment.

Future Army Guard communications-electronics modernization must provide flexible, secure, reliable communications for our commanders in order to meet the increased mobility and lethality which will occur on tomorrow's battlefield. Each year that Congress has provided dedicated equipment appropriations to the Army National Guard, we have utilized a significant portion of those funds to improve our communications-electronics equipment and readiness posture.

ARMY GUARD ORGANIZATIONAL CLOTHING AND EQUIPMENT

The Organizational Clothing and Equipment (OCE) program has improved over the last two years. Overall, the most significant area of concern is Chemical Defense Equipment (CDE). The Army Guard has 436,000 Chemical Protective Overgarments (CPO). The CPOs will eventually be used for training as they are replaced with the camouflage Battle Dress Overgarments (BDO). We had approximately 140,000 contingency sets of BDOs on hand at the end of FY 85 and are scheduled to receive 160,000 more in FY 86. Our goal is to be able to provide one training set and one contingency set of CDE to each member of the Army National Guard.

OCE is undergoing modernization with new items/systems being fielded and others under development. The fielding of the Personnel Armor System, Ground Troop (PASGT) helmet is in progress. By the end of FY 86, we are scheduled to have on hand 212,000 helmets, receive 215,000 more in FY 87, and the remainder in FY 88. Fielding of the Combat Vehicle Crewman's (CVC) ensemble begins in FY 87 in much the same manner as any major end item of equipment. The fielding will take place over a three year period with the initial 14,500 sets scheduled for fielding in the Army National Guard in FY 87

Overall OCE shortfalls are programmed to be reduced from $434.3 million at the end of FY 85 to $362.4 million at the end of FY 87.

ARMY GUARD REPAIR PARTS

Army National Guard repair parts requirements reflect maintenance costs directly related to the age of the equipment, increased quantities of new and complex equipment, and equipment deterioration caused by increased usage to support year around training programs. FY 85 funding for repair parts of $174.9 million provided an increase of $58.1 million above the FY 84 funded level. This increase significantly enhanced our material readiness through increased stockage of repair parts at units in the form of combat prescribed load lists (CPLL). In addition, FY 85 funding was used to replace authorized stockage list (ASL) items depleted to almost zero balance during FY 84. FY 86 funding will decrease repair parts related maintenance backlogs in all of our maintenance shops, ensuring that adequate quantities of repair parts are available to sustain day-to-day maintenance operations. However, shortfalls will continue in FY 86 due to significant increases in the Army Guard equipment inventory. Requested funding for repair parts in FY 87 of $236.5 million will provide an increase of $7.2 million above the FY 86 level. The most significant improvements will be realized in increased stockage levels of CPLL and ASL repair parts and will fully support day-to-day operational and materiel readiness goals.

ARMY GUARD DEPOT MAINTENANCE

Requested funding for our depot maintenance program fully supports FY 87 overhaul requirements. A series of depot maintenance programs designed to upgrade the condition of our equipment, providing better mission capability, will continue through FY 87. Major overhauls are scheduled for aircraft, combat vehicles, missiles, trucks and other surface equipment that should improve our equipment readiness. Our Rustproofing and Rust Repair Program, designed to improve the condition of truck bodies and chassis, extending the life of tactical wheeled vehicles, will be funded at approximately $3 million. Significant aviation depot maintenance activities are planned in FY 87 which will enhance the readiness of aviation assets and provide increased reliability and sustainability of Army Guard aircraft. We have scheduled induction of 86 UH-1, 2 AH-1, and 19 OH-58 aircraft into Corpus Christi Army Depot for overhaul in FY 87. In addition, 3 CH-54s are scheduled for induction into a sustainment maintenance program at a contractor's site in FY 87.

The Army National Guard depot maintenance program is one of the keys to continued improvement of our materiel readiness. This program provides the opportunity to maintain and sustain older equipment currently in our inventory at the highest possible levels of serviceability until new equipment is issued.

ARMY GUARD MILITARY CONSTRUCTION/FACILITIES

As the reliance on Army National Guard forces increases, our construction and base operations programs are undergoing evolutionary changes to become more responsive to these new missions. Key actions taken by the FY 86 Military Construction program demonstrates this more positive approach. They include construction of a Regional Training Center at Fort Dix, New Jersey, new ranges at Camp Ripley, Minnesota, for winter training; and new combat equipment storage and maintenance sites for expanded unit training in Michigan and Texas. Our FY 87 construction program concentrates on armory construction for the stationing and command functions for the reactivated 29th Infantry Division (Light). Additionally, we plan to construct an academic building for the Reserve Component Tank Commanders Course at Gowen Field, Idaho. the construction of automated rifle ranges in Michigan will permit increased numbers of soldiers to master and sustain marksmanship skills during training periods. This commitment to improve our training facilities is also carried through to our armory modernization and replacement program by expanding the functional areas necessary to support home station training. As the facilities become larger and more complex, the total cost and the unit cost of construction continue to increase.

For the first time in FY 85, direct funding was applied to our Backlog of Maintenance and Repair (BMAR). The reduction of $17 million resulted in a BMAR level of $42.2 million at the end of FY 85. Based on programed funding, we will meet the Congressionally mandated BMAR level of $15.0 million in FY 89.

Maintenance and repair of state owned/operated armories, for which states are 100 percent responsible, has not kept pace with current requirements. This is due, in part, to revised priorities at state level for expanded non-military programs which compete for available state funds and to reduced Federal funding for non-military state programs. Congressional concern with the physical condition of these armories and work space for additional federal employees being assigned due to the increase in federal missions led the Congress to add $33.0 million to our operation and maintenance appropriation in FY 86. This increase will assist the states in supporting Army National Guard personnel working in 100 percent state supported armories. It will help defray utility costs, maintenance and repair costs and modifications to work areas occupied by federal employees. Major repairs, such as roofs and boilers, will be accomplished with the federal funding assistance to aid the states in capital outlay areas.

AIR GUARD MILITARY CONSTRUCTION/FACILITIES

ANG missions can not be accomplished without new and modern facilities. Our Military Construction authorization request for FY 87 of $140 million includes $122.5 million for major construction, $2.1 million for unspecified minor construction, and $15.4 million for planning and design. This includes 34 major facility projects at 26 installations in 21 states. An analysis indicates that approximately three quarters of these projects are required to support new missions, conversions, and relocations. The remaining projects provide for the necessary replacement of facilities which are not economical to maintain. This request is small in relation to our existing $5.4 billion physical plant which averages 28 years of age.

Upon completion of the proposed FY 87 program, some 473 military construction projects, with a total estimated cost of $780 million, will still exist as valid, unfunded requirements. This includes 19 badly needed projects valued at $23.8 million which were deferred as a result of the combined effect of the general reductions to the ANG's FY 85 and FY 86 MCP.

ARMY GUARD UNIT TRAINING

During Annual Training 1985, the 49th Armored Division, Texas ARNG, became the third ARNG division in two years to train as a fully deployed division in the field. Ninety-six percent of the Army Guard field artillery units have successfully completed the 50 hour nuclear qualification evaluation over the last three year period.

Participation by Army Guard combat battalions in training at the National Training Center reached its highest level in FY 85. Five roundout battalions trained with their affiliated active component units. Force modernization actions will reduce our participation to two battalions each year in FY 86 and FY 87.

The Army Capstone Program continues to be important to the ARNG. Capstone provides a specific post-mobilization mission to which our units are able to train eliminating much extraneous effort and producing a better and more efficient training end product. Another example of the increased level and sophistication of ARNG unit training is our participation in Joint Chiefs of Staff (JCS) and Army Major Command (MACOM) exercises. In 1985, 390 units and unit cells participated in exercises in every Army theater, including Europe, Latin America, Korea, Alaska, North Africa and Southwest Asia. This trend continued when Wisconsin's 32nd Infantry (Mechanized) Brigade (Separate) deployed with all its personnel and equipment to Reforger 86 in January of 1986. It marked the first time a full ARNG brigade deployed overseas with equipment in peacetime.

While the 32nd Brigade was the largest ARNG unit to participate, 119 other ARNG units and unit cells also benefitted from the REFORGER 86 training opportunity.

TEAM SPIRIT 86 in Korea marks the largest involvement yet of our units in that major joint exercise. One hundred and forty-six units and unit cells will participate with 16 units shipping their organic equipment for participation in the Free World's largest joint combined exercise.

North Carolina's 30th Infantry (Mechanized) Brigade (Separate) will for the second time deploy a brigade task force with equipment to Italy for participation in DISPLAY DETERMINATION 86. An additional 33 ARNG units will also participate.

BLAZING TRAILS is the umbrella title for all Reserve Component engineer exercises conducted in Latin America. During 1985, 12,000 ARNG personnel conducted engineer and logistical support training in Panama. In 1986, 6,000 ARNG personnel will conduct training in both Honduras and Panama shipping heavy equipment by U.S. Navy sealift.

The ARNG Overseas Deployment Training (ODT) program experienced substantial growth during 1985 to 25,717 personnel in 865 units/unit cells training in 44 countries. In FY 86 we anticipate nearly 26,000 personnel will participate from over 1,100 units.

AIR GUARD UNIT TRAINING

The mission support units of the ANG are making impressive and innovative training advances.

In the past four years, our combat information systems units have deployed over 1500 personnel to Europe, Central America, Southwest Asia and Korea in support of major exercises. In FY 86, they will participate in nearly 40 exercises and deployments worldwide.

Our tactical control units train at home station by participating in system-wide exercises and in addition 13 units deployed to overseas exercises in FY 85. Six deployments are planned for FY 86.

Two engineering installation units deployed to Europe in FY 85 and plans are being made for additional deployments in FY 86 for these as well as our civil engineering and services units and our Prime Ribs Teams.

ARMY GUARD INDIVIDUAL TRAINING

Another proven success is the Army National Guard Key Personnel Upgrade Program (KPUP). The purpose of KPUP is to further develop key personnel in our units through direct association with their Active Component counterparts during tactical training exercises. It allows our personnel to perform in their assigned military occupational specialty (MOS) either in place of or alongside their Active Component counterpart.

These experiences of employing their skills with active units and utilizing the most modern equipment under demanding tactical situations have greatly contributed to improved MOS proficiency. Additionally, it has given our Guardmembers great confidence in their abilities. They return to their units with valuable tactical experience and new techniques which they have practiced in real tactical situations.

The KPUP Program expanded in 1985 with the development of centrally managed programs for specific career fields and major exercises.

ARMY GUARD NCO EDUCATION AND TRAINING

It is the responsibility of National Guard leadership to provide our noncommissioned officers with the training they need and deserve to permit them to lead our soldiers in battle.

Our commanders and senior noncommissioned officers have applauded the contributions of the Reserve Component Noncommissioned Officer Education System (RCNCOES) to the improved leadership posture of our NCO corps. Success of the program is such that over 33,000 students graduated in FY 85. Estimates are that approximately 35,000 students will graduate from RCNCOES courses in FY 86, more than five times the number that graduated in FY 80, the year the program was implemented. RCNCOES training is devoted primarily to leadership skills.

Our RCNCOES program includes the Primary, Basic, Advanced and Senior Noncommissioned Officer (NCO) Courses and the Reserve Component First Sergeants Course.

All of our personnel must be prepared to meet the same battle tests as infantrymen. The Army National Guard Battle Skills Course is designed to provide instruction in the technical aspects of squad and platoon weapons, their tactical employment, live fire familiarization and planning the use of nonorganic supporting weapons. The training, initiated in FY 84, is designed to complement the "train-to-train" skills taught in the RCNCOES. We expect 2,500 graduates in FY 86 and 3,000 in FY 87.

Another specialized training course initiated in the Army National Guard during FY 84 is the Reserve Component Tank Commanders Course. The purpose of this course is to prepare our NCOs for the duty position of tank commander in a tank company or troop. Students are trained to instruct crew drills and teach basic skills to their crews. The Tank Commanders Course is taught at Gowen Field, Boise, Idaho and will train over 800 Army National Guard tankers during FY 87. Like the Guard's Battle Skills Course, this course fits the needs of Guardmembers with limited time to devote to their military duties.

In order to ensure that the Active Guard/Reserve (AGR) and military technician force meets the same professional standards as their Active Army counterparts, we have developed the Military Education Program (MEP). In most instances, MEP requires that personnel attend the same courses conducted by the Active Army at an appropriate time in their career. Continued service in the AGR program is predicated upon successful completion of MEP. Equally important is active participation in the MEP by our military technicians. This will enhance their ability to perform in both their military and technician capacities.

ARMY NATIONAL GUARD AVIATION TRAINING

Current aviation training efforts have been greatly improved by the FY 83 activation of the Eastern Army National Guard Aviation Training Site (EAATS). Developed to handle the increased training work load in qualifying our aviators to meet individual and crew requirements, EAATS is designed to complement current training programs, not to replace them. A second aviation training site, the Western Army National Guard Aviation Training Site, is scheduled to be operational by FY 87. Its mission will be to supplement unit tactical training requirements.

We have established an intensive night vision goggle (NVG) training program to meet aviation mission requirements. This training requires not only specific flight training but specialized equipment. The Aviator's Night Vision Imaging System (ANVIS) has been designed to help the aviator meet this essential mission requirement. It is necessary for the Army National Guard to receive ANVIS in the near future for its aviation units for increased operational capability, cockpit compatibility, safety and reliability.

The current Department of Defense authorized maximum 24 additional flight training periods (AFTP) is causing concern. As missions increase and become more complex, additional flight opportunities become imperative if our aviators are to retain the necessary level of performance. An increase in AFTP's beginning in FY 86 will enhance the capabilities of ARNG aviation.

ARMY GUARD SAFETY

I am pleased to report our aviation accident rate has decreased from 2.58 accidents per 100,000 flying hours in FY 84 to 1.53 in FY 85. Human error on the part of commanders, aircrew members, supervisors and maintenance personnel continued to be the major factor in these accidents. During FY 85, we experienced a 13% reduction in motor vehicle accidents and a 28% reduction in combat vehicle accidents. To enhance the accident prevention program, we directed our units to designate one of our full-time personnel as a unit safety assistant. We have also developed a unit safety officer/NCO training course. Our analysis indicates a 12% reduction in FY 85 accident frequency from FY 84.

ARMY GUARD TRAINING SUPPORT

We have developed a strategy to improve training opportunities and effectiveness during Inactive Duty Training (IDT), thus enhancing training and improving unit readiness. The "Interlocking Training Strategy" provides the cross-walk from platoon through company to battalion level training outlined as follows:

a. Armory/Garrison training areas employ training devices and simulation exercises to provide training through platoon level.

b. Local training areas are developed to provide training through company level on modern, state-of-the-art equipment/devices to include company and team combined arms live fire exercises or their subcaliber and/or Multiple Integrated Laser Engagement System (MILES) equivalent.

c. Major training areas, normally Annual Training (AT) locations, are devoted to the support of battalion/task force maneuver and combined arms live fire training exercises.

To support our "Interlocking Training Strategy", a full complement of training devices, simulators, and simulations are essential. The FY 86 budget reflects a $37 million commitment by the Department of Army to provide the Army National Guard with technologically advanced state-of-the-art training devices such as MILES equipment for each of our maneuver battalions, the Tank Gunnery Missile Tracking Systems (103 total), the Dragon Launch Effects Simulators, Stinger Launch Simulators, maintenance trainers, and chemical detector trainers. Congress provided an additional dedicated appropriation of $50 million for Non-System Training Devices to the Army Guard in FY 86.

Congress also appropriated $5 million for research and development of Army Reserve Component unique training devices. These funds will be applied to the development of the training device initiative entitled Guard Unit Armory Full-Crew Interactive Simulation Trainer (GUARDFIST). The GUARDFIST initiative complements the "Interlocking Training Strategy" by providing full crew training at the armory/garrison training areas utilizing high technology, interactive video devices.

Another effort to improve IDT training involves the modernization, upgrade, and expansion of local training areas to offer the best opportunity for tactical training close to home. It is designed to maximize time, fuel, and ammunition while reducing materiel operating cost.

Coordination and development continue for the establishment of a Regional Training Center at Fort Dix, New Jersey, to act as a test bed facility for developing combat arms, combat support and combat service support soldier skills through a training device based strategy, for Regional Maintenance Training Sites to emphasize maintenance skill proficiency and Regional Training Sites-Medical for medical related skills.

AIR GUARD TRAINING SUPPORT

Our flying units make significant contributions to the Air Force as a by-product of realistic training. We participate as full partners with other components in overseas deployments, Joint Chiefs of Staff and Air Force training exercises, and Air Guard sponsored Composite Force training exercises.

Our overseas deployments temporarily move entire flying units to theater locations along with ground support personnel, civil engineering, tactical control, and combat communication units. Such deployments furnish the Air Guard with realistic and valuable theater specific training.

The Air National Guard has tested several deployment concepts in order to validate wartime capabilities and maximize training dollars spent. For example, we recognize that air refueling assets will be extremely limited during wartime. Therefore, we continue to use an island hopping deployment concept, moving a squadron from the Continental United States to Europe without air refueling. We successfully conducted such a deployment in FY 85, when we moved 12 A-10s from Maryland to Germany without air refueling. This type of deployment is extremely important considering the likelihood of limited aerial refueling during contingency operations.

In FY 85 both the Strategic and Tactical Air Commands specifically requested Air National Guard KC-135E tankers (recently modified with the powerful JT-3D fan jet engines) support their global deployment requirements. The improved performance capability of these reengined aircraft allows operations from the short runways typical in the European theater and Mediterranean basin. The KC-135E is about 20 percent more capable than Strategic Air Command's old KC-135As. The Air Guard's E-model can take off heavier from a shorter runway, fly farther and deliver a larger offload of fuel than the A-model...and it is significantly quieter. I thank the Congress for their support in providing the necessary funding for the KC-135 reengining program.

During 1985, four ANG units deployed four aircraft each and approximately 300 personnel to Moron AB, Spain for 15 days of annual training in support of the European Tanker Task Force. Training benefits realized were European theater air refueling tactics for our aircrews, unit support operations away from home station for our support personnel and a mobility preparedness exercise for all. Nine ANG KC-135's also provided air refueling support for CORONET BUFFALO in May 85, which deployed 36 ANG A-7's to England in the largest peacetime overseas deployment of ANG aircraft. The 101st AREFW, Maine ANG, acted as Tanker Task Force Command for the ANG KC-135's augmented by USAF KC-135 and KC-10 aircraft. Two units, with four aircraft and 120 personnel, deployed to Cairo, Egypt in August 1985 in support of BRIGHT STAR 85.

In the Southern Command region, the ANG maintains four A-7 aircraft on station at all times in defense of the Panama Canal. These aircraft are supported by our reengined KC-135s, which in addition to performing aerial refueling, move personnel and equipment and free up previously used C-130s for other taskings. We also maintain two Aircraft Control and Warning Radar units in defense of Puerto Rico, and support airlift requirements throughout Central and South America with six C-130 aircraft, a mission we share with the Air Force Reserve.

During FY 85, Air National Guard Tactical Airlift units provided support for 340 missions utilizing 1324 airframe days to Joint Airborne/Air Transportability Training (JA/ATT), an interservice program for the wartime application of airlift. In this program, the various services jointly develop common procedures for combat operations in order to attain and maintain wartime readiness.

The Air National Guard also supports the Army in exercises throughout the world. Joint training programs, such as at the National Training Center, Fort Irwin, California, provide joint training experience for both the Army and the Air National Guard.

To further the ANG fighting capability and familiarize our Air Guard personnel with joint operations, Composite Force training exercises are conducted throughout the year. These exercises are sponsored and planned by Air Guard flying units, Permanent Field Training Sites, and active Air Force units. These exercises encompass all mission areas of the Air Guard and are developed for the specific purpose of providing realistic training for all participants.

As a further measure of the Air National Guard's global readiness and realistic training received, 10 tactical fighter and reconnaissance units participated in 7 overseas deployments to Germany, Norway and England in FY 85. Two of these deployments were joint deployments where two or more units deployed together. This approach has reduced airlift costs, since the units share equipment and resources. Fourteen fighter/reconnaissance units are scheduled to participate in 11 overseas deployments in FY 86.

In recognition of the increasing importance of electronics combat, the Air National Guard has developed a long-term project to design, build, and employ low-cost electronic warfare simulators. These simple, but effective, radar transmitting devices are deployed to Air National Guard gunnery ranges throughout the United States. They are currently being used in large-scale exercises in support of readiness training for US Air Force, Army and Air Guard, US Navy and Marine Corps aviators.

AIR GUARD COMMUNICATION EQUIPMENT

As a result of a recent Air Force policy which sets forth an operational doctrine upon which a combat communications force structure is based, future tactical communications equipment allocations to ANG combat communications units will be based on mission priorities. This doctrine will have a significant impact on the modernization of these units.

Helping to alleviate some of the funding shortfalls and improving modernization, has been the appropriation by Congress of special procurement funds for ANG tactical communications equipment. However, the lack of standardized and modern communications equipment and the need to accept less than optimum capability will not be resolved until equipment provided through the joint DOD TRI-TAC program and other Air Force programs is made available to ANG units. Since the majority of USAF's tactical wartime communications support is tasked to ANG units, modernization of their equipment is essential to insure interoperability with other US and allied forces.

AIR GUARD SAFETY

For the fifth consecutive year we experienced an aircraft major mishap rate below 3.0. The rate for 1985 was 2.8 mishaps for each 100,000 flying hours. This was up from a rate of 1.9 in 1984, but still commendable in light of the high activity level in fighter aircraft. Operator error reduction continues to demand the most emphasis in our continuing accident prevention program. A very successful ground safety program resulted in a military personnel injury rate of 13.0 injuries for each 100,000 personnel assigned (includes weekend personnel). Technicians and Department of the Air Force assigned civilians earned a 1.4 per 200,000 operating hours rate. We have been successful in obtaining funding to place more of the authorized fulltime Safety NCO's in FY 86. By theend of FY 87 all ANG flying units will be funded for a fulltime ground/explosive safety NCO. We anticipate FY 86 to be a record setting, low mishap rate year in all areas for the ANG.

READYING/MOBILIZING THE ARMY GUARD

In FY 85, overall Army Guard readiness, as measured by the Unit Status Report (USR), increased by five percent reversing a downward trend which began three years ago. Indicative of this improved trend were increases in all resource areas: logistics, personnel, and training. In the personnel area, steady improvements were attained in military occupational skill qualification (MOSQ).

Force structure changes and force modernization initiatives continue to have a negative impact on readiness reporting as units are reporting readiness against new wartime requirements before equipment is available for distribution. To counter this bias, we have developed a new policy to delay effective dates of Table of Organization and Equipment (TOE) changes until adequate resources are available to support them and to designate certain modernization items which are in existing TOE non-reportable until they are available for issue at minimum combat ready levels.

In addition, we have developed the Equipment Readiness Analysis (ERA) program. This computerized program manages existing equipment assets and resources by redistributing them throughout the command based upon readiness requirements, optimizing the use of available resources and ensuring better distribution of resources.

Although USR's provide an indication of a unit's resource level, the reports do not give a complete picture of combat capability. For example, an armor battalion receives M1 tanks as replacements for its M60s. This increased capability would not be reflected in its USR. In the past, there has been no systematic means for measuring, reporting, and monitoring changes in warfighting capability. As a result, a system called Measuring Improved Capability of Army Forces (MICAF) was developed.

MICAF is a computer model which measures the improvement in a unit's capability over time resulting from the receipt of new equipment and serves as a supplement to the USR to provide a bridge between equipment status and unit equipment potential.

The MICAF 85 study indicates that the warfighting capability of our divisions, separate brigades and armored cavalry regiments has improved approximately 21 percent from 1980-1985.

As our units are tasked with increasingly demanding missions and deployment dates, our efforts to improve their mobilization preparedness remain an extremely high priority. Over 50 Army Guard mobilization planners were trained at the new Mobilization and Deployment Planners Course at Fort Sam Houston, Texas in FY 85. As our mobilization planning becomes more refined, our methods for exercising plans must also be improved. In that regard, in FY 85, over 600 mobilization exercises were conducted by the states. The exercises included high priority Army Guard units and State Area Commands.

In FY 86, it is expected that 650-700 exercises will be conducted and in FY 87, for the first time, funding should permit large scale involvement of our combat divisions and separate brigades in the exercise program.

READYING/MOBILIZING THE AIR GUARD

I am proud to report that again in 1985, Air National Guard units successfully demonstrated their capability to perform their wartime mission during Operational Readiness Inspections (ORI's). Even through the turbulence related to conversions and modernization, the readiness of our units remains at very high levels.

There are a number of contributing factors to our readiness. Recent adjustments to ANG precedence ratings in the DOD Logistics System has given us parity with like Air Force units. As a result, we have improved our equippage and support posture in consonance with DOD policies. Newer, more modern, equipment is also a factor as fewer logistical problems exist. Thirdly, our people are doing their job. Realistic training and increased activity provides a solid base in preparation for ORI's. These inspections are conducted using realistic wartime scenarios that inject stress and require unit commanders and staff to make decisions that closely approximate what would or could be done in an actual wartime environment. The majority of Air National Guard units, including flying, combat, communications and ground tactical air control units now deploy from their home station to Air Guard Field Training Sites and other locations for their inspections. These deployments accentuate mobility training and experience in unit operations in unfamiliar environments and have materially enhanced unit readiness and capability. One of our combat communications units (263rd, Badin, NC) was the first of any Air Force Combat Communications units to receive an outstanding ORI rating.

FAMILY AND EMPLOYER SUPPORT

Families, employers, and the American public in general must understand that the National Guard carries a major portion of the defense of this nation. Increased participation in National Training Center rotations, JCS exercises and overseas deployment training serve as examples of expanded training required of many units. Our personnel often find it necessary to train beyond the normal two week annual training period and forty eight training assemblies per year. As a result, the potential exists to strain family and employer relationships. Acknowledgement of the moral support of families and economic support of employers during these extended training periods must, therefore, be made. The role of the National Guard in the defense of this nation is increasing and the continued support and understanding of families and employers toward the citizen-soldier is vital to the success of that effort.

ARMY GUARD SUMMARY

The Army National Guard of today is very different from the Guard of the past. Training demands and the responsible role played by the Guard in national security place a significant burden on its soldiers and their families. They, the soldiers, are meeting the challenges, often through increased personal sacrifice. Our nation is benefitting from the contribution of our citizen-soldiers. The economies derived from a truly effective Army National Guard are felt across a wide spectrum of our society. All Americans are well served by the results.

AIR GUARD SUMMARY

The Air National Guard has proven to be an integral part of the Total Force. The Air Guard exists to support U.S. foreign policy and national security objectives, while providing a State militia uniquely qualified for local disaster and public safety missions. Our responsibilities are truly global, national, and local, and each offers its own set of challenges for the future.

The Air National Guard is ready to meet these challenges. The capability of our citizen airmen to respond to the most demanding wartime missions is a matter of record. We appreciate the continuing strong support of the Congress. That support has permitted the Air National Guard to continue modernization and to make significant progress toward our goal of strength through readiness.

LIEUTENANT GENERAL EMMETT H. WALKER, Jr.
CHIEF, NATIONAL GUARD BUREAU

Lieutenant General Walker enlisted in the United States Army in December 1942, attended Officer Candidate School at Ft Benning, GA, and was commissioned a second lieutenant, Infantry, on 23 May 1944. He served with the 95th Infantry Division in the European Theater during World War II and was separated from active service in March 1946.

On 22 May 1949, General Walker joined the Mississippi Army National Guard as a first lieutenant. He was promoted to captain on 3 January 1951.

General Walker was ordered to active duty on 16 January 1951 with the 31st Infantry (Dixie) Division during the Korean Conflict and served with the Far East Command Headquarters in Japan until 25 September 1952.

General Walker returned to the Mississippi Army National Guard where he served in several positions. Promotion to major came in February 1955. In December 1961, General Walker was promoted to lieutenant colonel and took command of the 4th Howitzer Battalion, 114th Field Artillery. He became commander of the 631st Artillery Group and was promoted to colonel on 19 February 1968. Appointed Assistant Adjutant General for the Mississippi Army National Guard on 16 February 1972, he was federally recognized as brigadier general, Adjutant General Corps, on 4 August 1972.

General Walker was appointed brigadier general, Army of the United States, on 15 October 1976 and ordered to active duty as Special Assistant to the Director, Army National Guard, National Guard Bureau. He was reassigned as Deputy Director, Army National Guard, National Guard Bureau, and federally recognized as brigadier general of the line effective 17 November 1976.

He was appointed as Director of the Army National Guard on 16 August 1978 and promoted to the grade of major general on 22 August 1978. He was appointed by the President for a four-year term as Chief of the National Guard Bureau and promoted to lieutenant general on 19 August 1982.

General Walker has been awarded the Silver Star, Legion of Merit, Bronze Star with V Device, Meritorious Service Medal, Army Commendation Medal, Good Conduct Medal, and numerous other decorations.

ARMY NATIONAL GUARD

STATEMENT OF MAJ. GEN. HERBERT TEMPLE

Senator STEVENS. I have some questions.

Any other statements you wish to have presented?

General Temple, do you have a statement?

General TEMPLE. Sir, only a brief statement.

I am the Director of the Army National Guard, the largest of the Reserve components, currently at 440,000 men and women across the United States and its territories.

The National Guard persons are training at the highest levels in the history of the Army National Guard because the mission given to the Army Guard demands that level of training.

The accessions and retentions in the Army Guard are the best and the highest we have ever seen. We think that is the result of a combination of efforts, both from the Congress that has provided benefits to our Guardsmen, but just as much the fact we are training in the way that soldiers join the military service to train.

Equipment is more prolific and it is better than we have seen for as long as any of us can remember. But still in all, much of the equipment is old. With that and the increased utilization of the equipment comes an issue that I would like to bring to your attention. That is the requirement to have sufficient spare parts, not only to provide maintenance of our equipment for training, but to have sufficient quantities of spare parts for wartime contingencies.

Our full-time force, which is key to raising the professionalism of the Army National Guard, is in itself today the best trained and the best prepared for performance in its peacetime and wartime mission.

Training experiences in which our National Guardsmen participated last year encompassed over 40 countries around the free world.

In addition to that, we are training side by side with our Active counterparts, doing the same things that they are doing to enhance their readiness. As a matter of fact, you would be hard pressed to find an Active component unit today that is training in a tactical exercise without Army National Guardsmen integrated into those units in key positions, enhancing their own professional skills.

With all that readiness comes a burden on the soldiers who serve in the Army National Guard. None of us should fail to be aware of the fact that we are asking a great deal of time and personal effort on their behalf to maintain the level of readiness which the administration and you, the members of Congress, and all of us who wear this uniform, demand of them, but they are achieving it at very high personal cost.

Sir, that concludes my comments.

[The statement of General Temple follows:]

PREPARED STATEMENT OF MAJ. GEN. HERBERT R. TEMPLE, JR.

DIRECTOR

ARMY NATIONAL GUARD

INTRODUCTION

The National Guard celebrates its 350th anniversary in 1986—350 years of soldiering, 350 years of neighbors helping neighbors, 350 years of dedication and professionalism, 350 years of fighting for and defending the freedom of our country. As we look at our history and into our future, we see a common thread—a military component dedicated to freedom and democracy—citizen soldiers contributing a major portion of the national defense—from 100 percent of the common defense in Colonial Massachusetts to nearly half of the Army's combat capability today.

The National Guard has participated in every major conflict in which our country has been involved—from Bunker Hill to New Orleans, from the Meuse Argonne to Normandy, from Old Baldy to Pleiku, all etched in the chronicles of our history. The Guard has served proudly, fought valiantly, spilled its blood freely and, ultimately, taken the objective. As a matter of fact, only when the citizen soldier has been called to active service has this country rallied, has the tide changed, have we been victorious in major conflicts.

The founding fathers of this country saw the need for a militia composed of citizens ready for call at a moment's notice, citizen soldiers willing and able to defend the common good and, when the crisis was ended, to return to their homes and communities. History has proven that citizen soldiers will give their all, their lives, if necessary, for the common good.

The National Guard is the oldest military institution in this great country, predating all others. In fact, many of our members actually formed and became the leadership of the original regular forces. The Guard has survived, not because of indifference, not because of inflexibility, not because of insignificance, but, rather, because it is a system that works. The system is working so well that the National Guard is being asked to shoulder more and more responsibility for national defense and has become essential to national security. Never before in the history of the National Guard have citizen soldiers been asked to bear the responsibilities and make comparable sacrifices in peacetime than they are today.

Through the continued cooperation of the Congress, the Department of Defense, the Department of the Army, and the states and territories, the Army National Guard has emerged as a dependable and reliable partner on the national security team. As we congratulate ourselves on our successes, however, we must never forget that our achievements have been accomplished through the commitment and personal sacrifices of the men and women who serve in the troop units of the Army National Guard.

Our mission is to deter war through strength. When deterrence fails, we must fight and win. In both instances, our soldiers must pay the price. We build our programs and allocate our resources to support our soldiers.

The National Guard is a unique military force that is deeply ingrained in the economic and social life of more than 2600 communities in our nation. The 3,350 units of the Army National Guard are in many instances a vital part of the history of their state and region. Generations of families have served in the Guard in peace and war. To understand the pride and motivation that serves the National Guard, it is essential to recognize the cohesion and esprit that comes from friends and neighbors striving together for mutual satisfaction and protection.

This combination, along with its heritage of patriotism and valor in battle, gives the Guard its meaning and purpose, and establishes a military foundation seldom found even among many of the regular forces of the world. Our challenge is to focus this combination of remarkable factors to serve the nation's security interests.

Training is the single element which synergizes the capabilities of the Guard for this purpose, but training alone will not develop the necessary product. Equipment is an essential ingredient. In past wars, there has been time for development and manufacture of weapons that allowed our soldiers to be victorious.

Today's threat is different. Guard units will not have time to marshal before the battle. We must have the necessary equipment on hand or readily available for peacetime training or to use in battle within days or weeks of mobilization.

Although training and equipment are unquestionably vital to a military organization, there are other elements which affect its utility. The Army National Guard is aggressively working to bring the following divergent elements together: (a) the continuous maintenance of strength with quality personnel; (b) the routine support of the physical needs of our soldiers and their families while they are on duty; and (c) a sophisticated and functioning management system to allocate and optimize the utilization of the resources provided by Congress to the Army National Guard. Management of those resources must meet the day-by-day peacetime needs of the Army National Guard and be fully integrated into Total Army systems in the event of war.

STATE MISSION

The National Guard responded to emergencies throughout the United States and its territories during FY 1985 by preserving life, protecting property, and helping to maintain law and order. Civil authorities in 45 states and 3 territories relied upon the expertise and responsiveness of the National Guard to confront 614 emergencies of all types. Extreme weather conditions were again the cause of the majority of call ups. They ranged from snow storms and significant cold spells in the northern and southern United States to disastrous flooding and tornado conditions in the central and southern areas during the first six months of FY 85. Considerable tornado and major flooding activities caused many emergencies in the third and fourth quarters including disastrous hurricane conditions in the south and on the northeast coast. In addition, forest fires in the western and southeastern states during the summer of 1985 caused a significant number of call ups . A variety of other natural disasters required the help of citizen soldiers ranging from flood recovery to stream maintenance. Chemical spill, emergency power, potable water, housing of the homeless, medical evacuation, and search and rescue missions were among the humanitarian missions conducted. Missions in support of drug law enforcement agencies continued as an increasing number of states supported the task of marijuana eradication/interdiction and other suppression efforts. Increased requests for specialized equipment and personnel in a variety of missions continue to reflect public acceptance of the National Guard as a professional emergency force available to provide vital support to our citizens.

FEDERAL MISSION

ORGANIZING THE GUARD

Forty-five percent of the combat forces and twenty percent of the support forces within the Total Army are provided by the Army National Guard. Major unit contributions to the Total Army force structure include ten combat divisions, fourteen separate brigades, four armored cavalry regiments, an infantry scout group, two special forces groups, four TOW (Tube-Launched, Optically Tracked, Wire Command-Link, Guided) light anti-tank battalions, four roundout brigades, and seven roundout battalions. In the event of full mobilization, eighteen of the twenty-eight Army divisions would be furnished wholly or in part by the Army National Guard.

Significant force structure actions in FY 85 and FY 86 continued to revolve around organization of the Army Guard's two newest divisions, the 35th Infantry Division (Mechanized), headquartered at Fort Leavenworth, Kansas, and the 29th Infantry Division (Light), headquartered at Fort Belvoir, Virginia. The 35th Division, made up of units from Colorado, Kansas, Kentucky, Missouri, and Nebraska, activated the headquarters elements of the Division Support Command (DISCOM) and the divisional engineer and signal battalions in FY 85. In FY 86, the maneuver brigades will convert to organic divisional organization, the Division Artillery will be activated and existing field artillery battalions will convert to divisional organization. The Combat Aviation Brigade will be activated along with the divisional cavalry squadron. With the programmed activation of an armored battalion and a target acquisition battery in FY 87, the 35th Division will be fully structured with the exception of its air defense artillery battalion. The Headquarters and Headquarters Company, 29th Infantry Division (Light) was activated 30 September 1985. Organization of the 29th Division will continue in FY 86 by consolidating two separate infantry brigades, Maryland's 58th Infantry Brigade and Virginia's 116th Infantry Brigade, which will form the nucleus of the division. The other elements of the division will be organized through activations and conversions of existing units in Maryland and Virginia.

Two actions begun in FY 84 and completed in FY 85 were organization of the Army's only Infantry Battalion (Mountain) and its only operational all weather, short range air defense unit, the Roland Battalion. Vermont's 3rd Battalion, 172nd Infantry (Mountain), uniquely organized and equipped for missions in mountainous and high alpine terrain, is the first such unit in the Total Army since the conclusion of World War II. The Mountain Warfare School, activated at Camp Ethan Allen, Jericho, Vermont, supports the battalion and further serves as a focal point for mountain training in the Army National Guard. New Mexico's 5th Battalion, 200th Air Defense Artillery (Roland), completed organization of its headquarters and headquarters battery and three firing batteries. The unit became fully operational in FY 86.

Three Army Guard heavy divisions initiated conversion to the Division 86 design in FY 85. These changes in the divisions' structure will be completed in FY 86 with the formation of their Combat Aviation Brigades, modernizing both attack and lift capabilities. The Division 86 changes will provide the divisions the capability to fight all aspects of AirLand Battle. Oregon's 41st Infantry Brigade began its conversion from a roundout to a roundup mission in FY 85 as the 7th Division converts to the light infantry division configuration. The 41st Brigade will maintain its current resource priority and training relationship with the 7th Division, but will become a corps rather than a divisional asset.

Other FY 86 actions involve roundout roles of two Army National Guard brigades. New York's 27th Infantry Brigade, 42nd Infantry Division has been designated as roundout to the active Army's 10th Mountain Division (Light Infantry). It will convert from its divisional brigade role and assume its roundout mission in April 1986. Organization of a replacement brigade for the 42nd Infantry Division is scheduled for FY 87 and FY 88. The roundout role for Hawaii's 29th Infantry Brigade will change to a roundup mission as the 25th Division converts to a light infantry division. The 29th Brigade will maintain its current resource priority and training relationship with the 25th Division, but will become a corps rather than a divisional asset.

Force structure actions in FY 87 will concentrate heavily on aviation force modernization. Aviation support for the five Army Guard Infantry divisions will be modernized with the activation of divisional Combat Aviation Brigades. At corps level, five attack helicopter battalions and five combat aviation battalions will be formed. Other actions involve conversion of the only TOW light anti-tank battalions in the Total Army to a modernized structure, authorizing them the new high mobility multi-purpose wheeled vehicle. Modernization of the six Army Guard armor and mechanized infantry separate brigades and conversion of two Armored Cavalry Regiments (ACR) will occur in FY 87. The ACRs will reorganize into the Division 86 configuration and each will activate a combat support squadron. Additionally, they will consolidate and expand their aviation assets into regimental combat aviation squadrons.

MANNING THE GUARD

Fiscal Year 1985 opened with a record paid end strength of 434,259 and closed with a new all time high of 439,952 soldiers. The closing strength represents 100.4 percent of our projected strength. Commissioned/Warrant Officer strength was 42,340 or 96.8 percent of projections while enlisted strength of 397,612 was 100.8 percent of projections. The net gain of 5,693 end strength over FY 84 was attained through aggressive recruiting and reflects a tremendous effort to increase and sustain strength at this all-time high level. End strength objectives for FY 86 and FY 87 are 450,496 and 462,800, respectively.

We began processing all prior service and non-prior service recruits through Military Enlistment Processing Stations (MEPS) 1 December 1985. The decision to implement full MEPS processing has been primarily in response to the requirement for HTLV-III antibody testing for all applicants entering the Army National Guard. Processing of all applicants at the 70 MEPS locations throughout the nation has a significant impact on travel and administrative processing requirements. We view this as both a challenge and an opportunity; a challenge because it is a dramatic shift in recruit processing operations and an opportunity because we should be able to provide higher quality services to our applicants.

Retention of highly qualified and motivated personnel continues to be one of our primary goals. The most significant and cost effective method of maintaining end strength is through retention. Our efforts during FY 86 and FY 87 will be directed at educating each Army Guard leader, down to squad/section level, regarding his or her responsibility to the individual soldier. Areas of special emphasis will encourage chain of command involvement in the retention process and revitalization of sponsorship programs.

Officer end strength was the highest level achieved in the history of the Army National Guard, representing 96.8 percent of the budgeted FY 85 objective of 43,751. Major problem areas continue to be shortages of captains in each of the combat arms branches as well as the chronic shortage of special branch officers (medical doctors, nurses, and chaplains).

Over 1300 officers were accessed from the Reserve Officers Training Corps (ROTC) in FY 85. The Simultaneous Membership Program (SMP) provides the majority of our ROTC accessions. This program allows advanced ROTC cadets to be active members of ROTC and serve in the Army National Guard as officer trainees. The SMP remains a key to successful input from ROTC with approximately 2,440 Army Guard participants in FY 85. The next largest source of ROTC officers for the Army National Guard were commissioned under the Early Commissioning Program (ECP). The ECP allows participants to accept an early commission upon completion of advanced ROTC and serve with the Army National Guard until completion of their college degree. Upon graduation, many are accessed into the Active Component while the remainder continue to serve in the Army Guard or Army Reserve.

ROTC Reserve Forces Duty Scholarships were awarded to 91 members of the Army Guard in FY 85. These two-year scholarships are designed to attract college students with outstanding potential as future National Guard officers. The pending expansion of the scholarship program, authorizing three- and four-year scholarships to Army Guard personnel, is expected to enhance the value of ROTC as a source for quality officer accessions.

The State Officer Candidate Schools (OCS) continue to be the most consistently reliable source of Army National Guard career officers. The State OCS programs produced 1,147 second lieutenants which amounted to 28 percent of Army Guard commissioned officer accessions for FY 85. Educational assistance available under the Assistance for Military Professional Development (AMPD) Program contributed toward one of our largest initial enrollments in the State OCS since school year (SY) 79-80. Additionally, State OCS class SY 84-85 experienced one of the lowest attrition rates recorded, less than 42.5 percent. Data to date indicates a continued decline in attrition for SY 85-86. These successes have been achieved in spite of increasing civilian education requirements for initial OCS enrollment. Additionally, 93 officers were commissioned from the Active Component OCS program at the U.S. Army's Infantry School.

Two new programs having potential impact on officer accessions are the Army National Guard Lieutenants Management Team (ALMT) and the Warrant Officer Training System (WOTS). The ALMT was implemented in July 1985 to increase the flow of Reserve Forces Duty (RFD) officers to the Army Guard. The ALMT serves as a focal point to access RFD lieutenants which include newly commissioned ROTC officers and the unassigned pool of obligated, trained officers of the Individual Ready Reserve (IRR). Referrals are made to the States based on reported officer vacancies. The ALMT was responsible for over 412 appointments during three months (July - September) of operations in FY 85. When fully operational, the three-man cell is expected to provide a minimum of 800 additional officer appointments annually. Implementation of the WOTS at the beginning of FY 86 effectively ended direct appointments for technical service warrant officers. The WOTS provides a life cycle management system for warrant officers, ensuring the availability of qualified warrant officers to meet the current and future needs of the Total Army. Requirements were established by the WOTS for warrant officer candidate training and military occupational specialty (MOS) technical certification prior to initial appointment. Warrant officer appointments after 1 October 1985 are being made as a result of a three step process: (a) applicants are selected and receive preappointment evaluation by a federal recognition board; (b) candidates are required to successfully complete the Warrant Officer Entry Course; and (c) candidates receive warrant officer appointments following technical certification by the MOS proponent agency. Implementation of the WOTS may cause an initial decrease in the number of warrant officer appointments. However, this reduction is not expected to be long term. Ultimately, the system will provide a much improved methodology for the training and appointment of technically qualified warrant officers to meet the needs of the Army National Guard.

Enlisted personnel gains totaled 82,952 representing 95.4 percent of the FY 85 objective. Throughout the fiscal year, nonprior service enlisted accessions continued below projections, while the recruiting of prior service personnel continued to exceed expectations. Nonprior service enlistments were 39,410 or 80.4 percent of objective while prior service gains were 43,542, or 114.9 percent of objective.

Nonprior Service (NPS) enlistments continue to reflect a high quality of personnel. The Congressional ceiling of twenty (20) percent enlistments of Test Score Category (TSC) IV personnel continued in effect this fiscal year. The Army National Guard ceiling was lowered from 12 percent to 10 percent in FY 85. End of FY 85 TSC IV enlistments of 10.8 percent were well below the ceiling imposed by Congress but exceeded the Army Guard objective. Beginning in FY 85, we were able to breakout TSC I-IIIA and I-IIIB accessions. Percentage data for I-IIIA was 46.8 percent and 42.4 percent for IIIB NPS enlistments. We are proud of this continuing record of quality enlistments which is attributable in part to the Selective Reserve Incentive Program (SRIP). During FY 85 the NPS enlistment goal for high school diploma graduates (HSDG) was raised to 72 percent. Beginning with the second half of FY 85, we continued to exceed this objective and ended the year with 75.7 percent of the total enlistments as HSDG. This percentage does not include General Educational Development (GED) enlistments which are considered to be non-high school graduates.

Enlisted losses remained well below the objective during FY 85, both in ETS (expiration term of service) and Non-ETS. The below projected ETS losses, in turn, reflect better than projected retention.

At the end of the fiscal year total minority strength consisted of 112,097 commissioned/warrant officers and enlisted personnel, representing 25.5% of the total paid strength. Black strength reflected net gains, especially in the officer category, for FY 85. Black officer strength reflected 4.8% of total officer strength while black enlisted personnel ended at 18.5% of total enlisted strength. At the end of FY 85 Black commissioned and warrant officer strength was 2,048 and enlisted strength was 73,449 for a total of 75,497, comprising 17.2% of the total paid strength.

Female strength increased slightly during FY 85 and continues to be affected primarily by the significant number of female officers and enlisted personnel serving in closed units. Loss of previously open positions in combat support units has impaired recruiting in this area. At the end of the fiscal year, there were 2,209 female commissioned/warrant officers and 20,586 female enlisted personnel for a total of 22,795 female personnel comprising 5.2% of paid strength. FY 85 accessions of enlisted women increased slightly. Over 55% were NPS. Beginning in FY 86, each State was given an enlisted women end strength goal based on the number of positions open to women in the State, the female strength in the State, and the Army National Guard enlisted women strength goal. Even though The Direct Combat Probability Code (DCPC) Policy, implemented in FY 84, closed approximately 66 percent of all positions in the Army National Guard to women, we still have positions available for more women as evidenced by the fact that only 43 percent of all E4 and below positions open to women are filled by women. Despite the constraints imposed on us by the DCPC Policy, we remain committed to increasing the total strength of enlisted women in the Army National Guard.

The SRIP continues to be an extremely important tool for recruitment and retention of our quality force, allowing us to target our personnel resources into high priority units and shortage skills. Currently in excess of 125,000 soldiers in the Army National Guard are participating in one of the SRIP categories. Extension of the SRIP through FY 87 was, in our view, one of the key actions passed in the FY 86 Department of Defense Authorization Act. Other changes were increases in the Reenlistment Bonus and Affiliation Bonus, extension of the Student Loan Repayment Program as a permanent program, and addition of a Prior Service Bonus, a Student Loan Repayment Program for Health Professionals, and the Armed Forces Health Professionals Scholarship Program for the Selected Reserve. These changes will only enhance the viability of SRIP and continue to provide the vital and necessary tools required to attract and retain quality soldiers.

Professional Development Programs

Our future leaders must attain the highest levels of intellectual achievement if they are to lead a better educated force. We have taken steps to ensure a better educated officer corps by requiring: (1) completion of two years of college for all officers by 1 October 1989; (2) completion of two years of college for all State OCS graduates prior to appointment, beginning in 1989; and, (3) completion of a baccalaureate degree prior to appointment to major for all officers appointed after 30 September 1983.

A program providing educational assistance for Army Guard soldiers is the Army Continuing Education System (ACES). ACES was extended to the Army National Guard during FY 86 as a Total Army program providing educational opportunities such as basic skills, high school completion, and part-time college programs not covered under the New GI Bill. Individuals receiving benefits under the New GI Bill are not authorized to receive ACES benefits, and conversely, those receiving ACES benefits cannot at the same time receive benefits under the New GI Bill. Commissioned officers utilizing ACES tuition assistance incur a four year Selected Reserve obligation following the last class taken.

Another program which has proven itself in terms of enhancing the experience and quality of the Army National Guard officer corps is the Captains to Europe, Panama, and Korea Program. This program, now in its fifth year, continues to provide Army Guard officers with active Army experience in an overseas theater. Following either a one- to three-year tour of duty, the officer returns to the Army Guard with valuable experience. During FY 85, 80 officers participated. A total of 19 new officers entered the program and 26 returned to their Army Guard assignments. Department of the Army has recently revised the criteria for participation, allowing first lieutenants to apply. The change should increase participation, enabling the Army National Guard to utilize the 160 positions allocated for the program.

Full-time Support

Full-time support personnel in the Army National Guard at the end of FY 85 represented 63 percent of required full-time support. We are authorized 68 percent of requirements in FY 86. In FY 87, we are requesting an increase of 500 military technicians and 4,990 Active Guard/Reserve (AGR) personnel which will enable us to attain 76 percent of required strength.

The continued growth in full-time support is representative of the emphasis being placed on transforming the Army National Guard into a fully trained, fully equipped modern force capable of rapid mobilization and deployment. The full-time support force is the backbone of the Army National Guard. It supports the increased tempo of training by providing full-time personnel in units to plan, develop, coordinate and conduct required training. It supports the increased tempo in supply management, equipment maintenance, and administration by providing full-time trained and qualified personnel to perform and oversee these functions that are so critical to the achievement of high mobilization objectives placed on the Army National

Guard. Some question whether these objectives can be realized by a force of part-time soldiers. Recent success indicates that the Army Guard can meet these objectives if adequate full-time support is provided. The 1985 General Accounting Office (GAO) report "Problems in Implementing the Army's Reserve Components Full-Time Manning Program" recognized that the overall impression in the field is that units are more capable of mission accomplishment because of increased full-time support. Our FY 87 budget request was developed with these facts in mind.

To effectively and efficiently use these full-time assets, we have developed a plan that guides the utilization and positioning of full-time personnel. This plan is based on Congressional guidelines provided to us in 1982. We have found, through experience and analysis, that AGR personnel are better suited for providing full-time support to units, whereas, military technicians are best suited for employment in support activities, including headquarters, supply and maintenance. To derive maximum benefit from our full-time support force, there is a need to separate the functions of AGRs and technicians by aligning each to those responsibilities that are in concert with the purpose of each program. Quoting from the Conclusions and Recommendations of the aforementioned GAO report:

"In our opinion, mixing technicians and AGR personnel in troop units is not organizationally sound and detracts from effectiveness. Of the two alternatives, either all-technician or all-AGR, we believe that the all-AGR force is the preferred choice for the following reasons:

—It offers an immediate solution to the problem of technicians unable to deploy with their units, whereas the all-technician choice would only prolong the situation. (Applies to Army Reserve status-quo technicians only).

—Military pay and benefits, which are higher than comparable civilian pay scales, are a positive factor in the recruitment and retention of qualified personnel.

Finally, we believe that a technician support structure, protecting the rights of current technicians, can be developed along the lines of the National Guard Bureau's plan. This plan removes technician positions from deployable units and realigns them in headquarters, maintenance support elements, and other non-deployable organizations."

We have not implemented such a realignment because of a possible conflict with Congressional language prohibiting the movement of technician positions to support activities. We would like Congress to revise the language prohibiting the movement of technician positions and allow us to implement a mix of the force established by Congressional direction in 1982 and endorsed by the GAO in its report.

EQUIPPING THE GUARD

The leadership of the National Guard has often said, "If you will just give us the equipment, we will do the job". Congress, the Department of Defense, and the Department of Army have listened and modern high technology equipment is being provided to our units, much of it right off the assembly line. However, as of the end of FY 85, the Army National Guard was equipped with only 64 percent of the equipment it needs to go to war. Those who have suffered the rigors of battle know full well that units can fight successfully and that entire operations have been conducted with 64 percent of required equipment or less. However, our soldiers need and deserve a full issue of equipment and resources to accomplish their mission and survive on the modern battlefield. Even at full issue, they will be outnumbered and outgunned by our adversary. Our highest priority equipment shortfalls remain in air defense artillery, communications-electronics, aviation, field artillery, and medical equipment.

Ground Equipment

A proposal made in 1984 evolved into a final decision in May 1985 to accelerate modernization of the Army National Guard armor force. By the middle of FY 91, the Army Guard will be totally equipped with M1 Abrams tanks and M60A3 TTS (Tank Thermal Sight) tanks. Once the decision to modernize our armor force was made, we were immediately faced with the challenge of creating, manning, and equipping the first of two M60A3 Displaced Equipment Training (DET) sites to handle the monumental task of training more than 2,900 tank crews over a four year period. To date, that challenge has been met. The initial DET site at Gowen Field, Idaho, was fully operational in December 1985 with a total of six units scheduled for training between January and September 1986. The second DET site is scheduled to become fully operational at Camp Shelby, Mississippi in August 1986.

We are also scheduled to receive 315 Bradley Fighting Vehicles (BFV) and 570 Improved TOW Vehicles (ITV) by FY 91. As of the end of FY 85, 71 BFVs and 247 ITVs have been delivered to the Army Guard. New Equipment Training (NET) is scheduled with the fielding of these systems in the receiving units, many of which are also receiving modernized tanks.

The Army National Guard has three field artillery modernization goals: first, increase the capabilities of firing units by replacing or modernizing old weapons systems; second, automate the fire direction capabilities of all units; and third, optimize the fire support capabilities of units.

We have been successful in automating our fire direction capabilities. We are moving along in fielding the battery computer system (BCS); however, at the current rate, fielding will not be completed until FY 92. The Backup Computer System (BUCS), a hand held computer which is designed to backup the BCS in cases of power failure, has been fielded to all field artillery units. This system, although designed as a backup system, is now the primary automated means of fire direction in a majority of our units until the BCS is completely fielded in the Army Guard.

Modernization of artillery weapons systems continues to be a challenge. It was anticipated that all M-114 series (pre-Korean War vintage) 155mm howitzers would be replaced by the M-198 (155mm) howitzer in general support units. Infantry division direct support artillery units, currently equipped with 105mm howitzers, would also receive the M-198. Funding limitations will require M-114 retention in the force for an indefinite period of time. The M-109 series 155mm self-propelled howitzers are still projected for fielding, reducing the current shortage by FY 92. Additional howitzers may become available through displacement from the active component if the Multiple Launch Rocket System (MLRS) procurement program continues. One corps level MLRS battalion is currently scheduled for fielding in the Army National Guard. MLRS is projected as the general support weapon in all divisions except the light infantry. Currently, MLRS fielding is not scheduled for any of our divisions. Therefore, nine Army Guard divisions will not be as capable as Active Component divisions. Procurement by Department of Army of the British Light Gun (BLG) L-119 (105mm) is scheduled to begin in FY 87. The L-119 howitzer is projected for fielding to the units in our light infantry division and separate infantry brigades.

Modernization of fire support has shown the least progress in the overall modernization of field artillery, although we have had tremendous improvement in units which have received the Fire Support Team Vehicle (FISTV). The FISTV provides the capability to direct high performance aircraft and laser guided munitions to a point target. We have developed a program integrating Army and Air Force fire support in live fire training exercises. Lack of additional fire support equipment hinders our total capability to optimumly utilize fire direction and howitzers. Fire support equipment, automated fire direction, and modern weapons systems such as the M-198 and MLRS are the key to an effective artillery force.

Department of the Army distributed equipment worth $1.4 billion to the Army National Guard in FY 85. This included such major systems as the M1 tank, BFV, ITV, Commercial Utility Cargo Vehicle (CUCV), M-939 5 ton cargo truck, M-198 howitzer, BCS, and Roland Air Defense System. HQDA projects equipment deliveries to the Army Guard worth $1.4 billion in FY 86 and $1.7 billion in FY 87. In addition to follow-on deliveries of the above mentioned major systems, FY 86 and FY 87 deliveries will include the M60A3 TTS tank, High Mobility Multipurpose Wheeled Vehicle (HMMWV), FISTV, Heavy Expanded Mobility Tactical Truck (HEMMT), and Chaparral. HQDA procured $1.4 billion worth of equipment for the Army Guard in FY 85 and projects procurement of equipment worth $1.1 billion in FY 86 and $825 million in FY 87. Delivery timeframe for this equipment will be FY 86-90.

In support of Army National Guard equipment procurement, Congress has provided a separate appropriation to support procurement of miscellaneous equipment yearly beginning in FY 82. The $350 million appropriated from FY 82 through FY 85 has been used to improve near term readiness in early deploying Army Guard units. In FY 86, Congress provided a separate appropriation of $531.8 million for procurement of equipment. This appropriation includes funding for Chaparral fire systems, ITV conversion kits, M-198 towed howitzers, nonsystem training devices, a truck service life extension program, and $333 million for miscellaneous equipment. We plan to utilize the miscellaneous equipment funds to procure communications equipment, armored personnel carriers, 5 ton cargo trucks, M-198 towed howitzers, ITV conversion kits, command post carriers, well drilling machines, tank and pump units, bridge erection boats, laundry units, bridge transporters, and for projects which will facilitate the delivery, storage, training, and maintenance to fully utilize new equipment the Army Guard has received.

Aviation Equipment

In FY 86, the Army National Guard has a requirement for 484 attack aircraft. Our inventory at the end of FY 85 included 122 TOW missile equipped AH-1S Cobras and 214 UH-1M (Vietnam era) attack helicopters which have limited anti-armor capability. Of the 122 AH-1S Cobra/TOW models, 41 are fully modernized production aircraft procured for the Army Guard through Congressional initiatives with the balance composed of displaced Active Component aircraft. During FY 86, 11 more fully modernized AH-1S Cobra/TOW models, procured as a result of Congressional initiatives in FY 83, will enter our inventory as well as 31 displaced AH-1S Cobra/TOW aircraft, resulting from fielding of the AH-64 Apache in the Active Component. Congress initiated a program in FY 84 to modify 87 Army Guard AH-1G aircraft to the AH-1S Cobra/TOW configuration by providing funding for reconfiguration of the first 29 AH-1Gs. Funding for reconfiguration of the second 29 AH-1Gs was provided in FY 85. Delivery of 18 of these reconfigured aircraft is scheduled for FY 86. Thus, a total of 60 AH-1S Cobra/TOW models will be fielded in the Army Guard in FY 86, increasing the total in our inventory to 182.

Our attack helicopter requirements increase to 580 in FY 87 due to Army National Guard aviation force structure changes. A total of 109 AH-1S Cobra/TOW models are projected for fielding in FY 87, of which 40 will be reconfigured AH-1Gs. Congress directed procurement of 18 AH-64 helicopters for the Army Guard from Department of Army appropriations in FY 85. The first battalion of AH-64 Apache helicopters will be fielded in the North Carolina Army National Guard in FY 87. A second battalion of AH-64s is projected for fielding in the South Carolina Army National Guard.

Fielding of UH-60 Blackhawk helicopters was initiated in the Army Guard with delivery of 4 aircraft to aviation maintenance units in Ohio and Kentucky in FY 83. Modernization of our utility helicopter fleet continues in FY 86 when 22 UH-60s will be added to our inventory, 8 of which were procured as a result of FY 85 Congressional action. These aircraft will be fielded to units in Alaska, Kentucky, Oklahoma, and Virginia. Fifteen UH-60s are projected for fielding in the Army Guard in FY 87 to units in Kentucky and Virginia. At the end of FY 87, we will have a total of 41 UH-60s on hand against a total requirement of 91.

Our medium lift helicopter capability has been enhanced by the addition of 11 CH-47C aircraft procured from the Italian Agusta Aircraft Company as a result of FY 85 Congressional action. These aircraft have been converted to United States standards and incorporate state-of-the-art technology which will improve mission capability.

Six C-12 administrative support fixed wing aircraft, procured for the Army Guard by Congress in FY 85, are scheduled for delivery beginning in FY 86. Acquisition, through competitive procedures, of 6 additional C-12 aircraft was directed by Congress for the Army Guard in FY 86. The addition of these aircraft will increase our total C-12 inventory to 24.

Air Defense Equipment

The Army National Guard is currently organized with seven battalions of Korean War vintage M42 (Duster) Air Defense Artillery (ADA) and one Chaparral battalion supporting eight Army Guard divisions. Additionally, we have one

U.S. Roland battalion, a corps level unit that is the only unit of its type in the Total Force. The present force modernization plan replaces our Duster units during the period FY 86-91. Three of our Duster battalions will convert to Chaparral organizations. The ARNG will then have a total of four Chaparral battalions. The remaining Duster units will be reorganized as modern ADA equipment becomes available. Our ADA force will increase in the future with the activation of six divisional battalions, two units for the newest Army Guard divisions and four units to provide replacement for the Chaparral units which will become corps level battalions. By the mid 1990s, the Army Guard ADA force will consist of ten divisional ADA battalions, six Chaparral battalions, and three Hawk battalions. Existing requirements for activation and equipping of ADA units for our Armored Cavalry Regiments and separate brigades will remain for the forseeable future.

In the future, the Army National Guard will receive air defense systems under development and command/control sensors which parallel the Army ADA design. All of our divisional ADA units will eventually be fielded with new ADA systems. Modernization of our air defense capability continues to be our highest priority.

Communications-Electronics Equipment

In May 1985, Texas' 49th Armored Division's signal battalion was the first Army National Guard divisional signal battalion to receive the modern multichannel Army Tactical Area Communications Systems (ATACS). ATACS systems were procured with funds made available by Congress for communications equipment in the late 1970s. After receiving this equipment in May, the signal battalion supported the entire division with reliable, effective, and secure communications during annual training 85. Two more Army Guard divisional signal battalions will receive ATACS in FY 86 with our remaining signal battalions programmed to receive ATACS by the end of FY 87.

Battlefield Communications Review places Army Guard divisional signal battalions and corps Mobile Subscriber Equipment (MSE) battalions in position to be fielded MSE at the same time as the active units with which they are aligned for combat. This will result in greatly improved interoperability, capability, and compatibility of equipment.

Future Army Guard communications-electronics modernization must provide flexible, secure, and reliable communications for our commanders in order to meet the increased mobility and lethality which will occur on tomorrow's battlefield. Each year that Congress has provided dedicated equipment appropriations to the Army National Guard, we have utilized a significant portion of those funds to improve our communications-electronics equipment and readiness.

Organizational Clothing and Equipment

The Organizationl Clothing and Equipment (OCE) program has improved over the last two years. Overall, the most significant area of concern is Chemical Defense Equipment (CDE). The Army Guard has 436,000 Chemical Protective Overgarments (CPO). The CPO will eventually be used for training as they are replaced with the camouflage Battle Dress Overgarments (BDO). We had approximately 140,000 contingency sets of BDO on hand at the end of FY 85 and are scheduled to receive 160,000 more in FY 86. Our goal is to be able to provide one training set and one contingency set of CDE to each member of the Army National Guard.

OCE is undergoing modernization with new items/systems being fielded and others under development. The fielding of the Personnel Armor System, Ground Troop (PASGT) helmet is in progress. By the end of FY 86, we are scheduled to have on hand 212,000 helmets, receive 215,000 more in FY 87, and the remainder in FY 88. Fielding of the Combat Vehicle Crewman's (CVC) ensemble begins in FY 87 in much the same manner as any major end item of equipment. The fielding will take place over a three year period with the initial 14,500 sets scheduled for fielding in the Army National Guard in FY 87. These sets include body armor, coveralls, gloves, hood, balaclava, and jacket and are intended to provide essential flame, thermal, and wind protection and increased battlefield survivability.

Overall OCE shortfalls are programed to be reduced from $434.3 million at the end of FY 85 to $362.4 million at the end of FY 87.

Repair Parts

Army National Guard repair parts requirements reflect maintenance costs directly related to the age of the equipment, increased quantities of new and complex equipment, and equipment deterioration caused by increased usage to support year around training programs. FY 85 funding for repair parts of $174.9 million provided an increase of $58.1 million above the FY 84 funded level. This increase significantly enhanced our materiel readiness through increased stockage of repair parts at units in the form of combat prescribed load lists (CPLL). In addition, FY 85 funding was used to replace authorized stockage list (ASL) items depleted to almost zero balance during FY 84. FY 86 funding will decrease repair parts related maintenance backlogs in all of our maintenance shops, ensuring that adequate quantities of repair parts are available to sustain day to day maintenance operations. However, shortfalls will continue in FY 86 due to significant increases in the Army Guard equipment inventory. Requested funding for repair parts in FY 87 of $236.5 million will provide an increase of $7.2 million above the FY 86 level. The most significant improvements will be realized in increased stockage levels of CPLL and ASL repair parts and will fully support day to day operational and materiel readiness goals.

Depot Maintenance

Requested funding for our depot maintenance program fully supports FY 87 overhaul requirements. A series of depot maintenance programs designed to upgrade the condition of our equipment, providing better mission capability, will continue through FY 87. Major overhauls are scheduled for aircraft, combat vehicles, missiles, trucks and other surface equipment that should improve our equipment readiness. Our rustproofing and rust repair program, designed to improve the condition of truck bodies and chassis, extending the life of tactical wheeled vehicles, will be funded at approximately $3 million. Significant aviation depot maintenance activities are planned in FY 87 which will provide increased reliability and sustainability of Army Guard aircraft and enhance the readiness of aviation units . We have scheduled induction of 86 UH-1, 2 AH-1, and 19 OH-58 aircraft into Corpus Christi Army Depot for overhaul in FY 87. In addition, 3 CH-54s are scheduled for induction into a sustainment maintenance program at a contractor's site in FY 87.

The Army National Guard depot maintenance program is one of the keys to continued improvement of our materiel readiness. This program provides the opportunity to maintain and sustain older equipment currently in our inventory at the highest possible levels of serviceability until new equipment is issued.

Military Construction/Facilities

Our construction and base operations programs are undergoing evolutionary changes, becoming more responsive to increased reliance on the Army National Guard for new missions. Key actions taken by the FY 86 Military Construction (MILCON) program demonstrate this more positive approach. They include construction of a Regional Training Center at Fort Dix, New Jersey which will serve as the prototype training facility for developing battalion, brigade, and division headquarters staff command expertise and sustaining individual soldier's skills; new ranges at Camp Ripley, Minnesota, for winter training; and new combat equipment storage and maintenance sites for expanded unit training in Michigan and Texas. Our FY 87 construction program concentrates on armory construction for the stationing and command functions for the reactivated 29th Infantry Division (Light). Additionally, we plan to construct an academic building for the Reserve Component Tank Commanders Course (RCTCC) at Gowen Field, Idaho. The construction of automated rifle ranges in Michigan will permit increased numbers of soldiers to master and sustain marksmanship skills during annual training periods. This commitment to improve our training facilities is also carried through to our armory modernization and replacement program by expanding the functional areas necessary to support home station training. New armories will have more classroom space, areas for training and sustaining vehicle maintenance skills, and space for storage and safeguarding unit supplies and equipment which is sorely lacking in our older armories. These changes result in more complexly designed buildings entering our facilities inventory. As the facilities become larger and more complex, the total cost and the unit cost of construction continue to increase.

For the first time in FY 85, direct funding was applied to our Backlog of Maintenance and Repair (BMAR). The reduction of $17 million resulted in a BMAR level of $42.2 million at the end of FY 85. Based on programed funding, we will meet the Congressionally mandated BMAR level of $15.0 million in FY 89.

Maintenance and repair of state-owned/operated armories, for which states are 100 percent responsible, has not kept pace with current requirements. This is due, in part, to revised priorities at state level for expanded non-military programs which compete for available state funds and to reduced Federal funding for non-military state programs. Congressional concern with the physical condition of these armories and work space for additional federal employees being assigned due to the increase in federal missions led the Congress to add $33.0 million to our operation and maintenance appropriation in FY 86. This increase will assist the states in supporting Army National Guard personnel working in 100 percent state supported armories. It will help defray utility costs, maintenance and repair costs and modifications to work areas occupied by federal employees. Major repairs such as roofs and boilers will be accomplished with the federal funding assistance to aid the states in capital outlay areas.

TRAINING THE GUARD

Some people still perceive Army National Guard training as meeting one weekend per month in an armory and two weeks each summer for nearby field training. Today's Army Guard is far removed from that old image. We are training units and leaders as we have never previously trained. We are raising the level of training because there will be no time after mobilization to do it. Our soldiers consider themselves professional and desire to play a key role in the execution of national security. As these highly motivated soldiers participate in meaningful and realistic training, extending their skills and stamina, it is gratifying to see their pride of accomplishment in what others have said could not be done by Guard soldiers. These are the men and women who come into the National Guard and "stick with it." Training is our best recruiter and retainer.

Unit Training

One of the most significant recent successes in ARNG training has been progress toward our goal of "training-up"—units training at the level at which they are organized, i.e., divisions training at division level, brigade training at brigade level, battalions training at battalion/task force level, etc. During Annual Training (AT) 1985, the 49th Armored Division, Texas Army National Guard, became the third Army Guard division in two years to train as a fully deployed division in the field. The 49th Armored Division successfully executed an ambitious, aggressive AT plan at the division level. The 49th Armored Division thus joined the 1984 lead of California's 40th Infantry Division (Mechanized) and Indiana/Michigan's 38th Infantry Division in achieving the goal of "training up" to the level of organization. These examples of division level training reflect the overall general trend of all units to train at higher levels now as compared to previous years. This trend is so prevalent, and our advocacy so strong, that we have worked with Headquarters U.S. Army Forces Command to revise AT evaluation reports so that they encourage higher levels of unit training.

Another example of "training up" involves our 91 nuclear capable field artillery units. Administration of a nuclear qualification Army Training and Evaluation Program (ARTEP) evaluation is required every three years. FY 85 was the final year of the first three year cycle. In order to successfully complete a nuclear qualification ARTEP evaluation, units must conduct a minimum of 80 percent of their fire delivery tasks while maintaining a 70 percent or better operational readiness in personnel and equipment. Each nuclear capable unit must complete all nuclear level tasks. During the 50 continuous hours of field operations required to conduct the evaluation, a unit must conduct a minimum of five tactical moves of at least five kilometers each. Two of those moves must be at night. Eighty-seven (96 percent) Army

Guard field artillery units have successfully completed the nuclear qualification evaluation over the three year period.

Participation by Army Guard combat battalions in training at the National Training Center (NTC) reached its highest level since inception of our training there in FY 83. Five roundout battalions trained with their affiliated active component units at what is unquestionably the Free World's finest combat maneuver training center. Although by strict design no formal evaluation of NTC training is published, indicators are that our units' performance has been very satisfactory, and in some cases exemplary. Force modernization actions will reduce our participation to two battalions each year in FY 86 and FY 87.

We also receive significant benefits from NTC's Leader Training Program, which focuses intensively upon training the chain-of-command from company to brigade level. Fourteen of our combat units participated in this dynamic training in FY 85, and fourteen more are scheduled for participation in FY 86.

The Army CAPSTONE Program continues to be fundamentally important to the Army National Guard. CAPSTONE provides a specific post-mobilization mission, including a post-mobilization organizational structure, to which our units are now able to give definitive direction for their planning and training efforts. Before CAPSTONE, units were required to plan and train for all generic missions, i.e., combat units train for all combat missions, military police units train for all military police missions, etc. As CAPSTONE matures, however, and coordination between our units and their CAPSTONE post-mobilization chain of command becomes more detailed, units receive detailed, clearly defined mission assignments. Thus, the infantry unit, instead of training for all infantry missions, can now direct its planning and training toward its CAPSTONE mission of defending a specific piece of terrain in a preassigned specific wartime area. Another manifestation of the CAPSTONE program finds many Army Guard headquarters assigned primary responsibility for writing portions of, and in some cases, all of the forward deployed corps and theater level war plans. This facet of CAPSTONE development typifies the degree of active/reserve component integration achieved under CAPSTONE.

Another manifestation of the higher level of ARNG training is the dramatic increase in both the size and the nature of ARNG participation in Joint Chiefs of Staff (JCS) and Army Major Command (MACOM) exercises. Just three years ago, only 103 Army Guard units and unit cells participated in JCS/MACOM exercises, and only a handful of those shipped equipment to the exercise location. In 1985, the number increased to 390 units and unit cells participating in exercises in every Army theater, including units shipping equipment to Europe, Latin America, Korea, Alaska, North Africa, and Southwest Asia, units drawing POMCUS (Prepositioning of Materiel Configured in Unit Sets), and units charged with primary exercise planning, coordination, control, and support responsibilities. The trend of an increased Army Guard role in JCS/MACOM exercises accelerates in 1986 when Wisconsin's 32d Infantry (Mechanized) Brigade (Separate) deployed with all its personnel and equipment to REFORGER 86, marking the first peacetime overseas deployment of an entire Army National Guard combat brigade. In fact, 1986 is a benchmark year in exercises for our units. In 1986, Army National Guard combat units of battalion size or larger will deploy with personnel and equipment to Germany, Korea, Panama, and Italy. This will be the first time that our combat forces have been deployed with equipment to all of those countries in a single training year. This significant occurrence graphically illustrates the increased role and higher levels of training attained by the Army National Guard.

While the 32d Infantry (Mechanized) Brigade (Separate) was the largest single Army Guard organization participating in the winter REFORGER 86, 119 other Army Guard units and unit cells also participated. One engineer battalion and two medical companies drew equipment from POMCUS stocks, a signal brigade and an infantry (anti-tank missile) battalion joined 10 other combat, combat support and combat service support units in shipping their equipment, while the remaining units used equipment borrowed from or shared with their Active Component sponsor.

TEAM SPIRIT 86 in Korea marks the largest involvement yet of our units in that major joint exercise series. One hundred and forty-six Army Guard units and unit cells, including 16 combat, combat support, and combat service support units scattered from Oregon to Alabama, will ship their equipment and deploy to Korea for the Free World's largest joint combined exercise.

Not only is the size of our contingent significant, but TEAM SPIRIT 86 also carries a particular historical significance to both the Army National Guard and the Republic of Korea. A mechanized infantry battalion, reinforced by a tank company and a combat engineer platoon, from California's 40th Infantry Division (Mechanized), will be the Army Guard combat element deploying its personnel and equipment for the exercise. This marks the first return of a major combat element of the 40th Division to Korea since that division's participation in the Korean War. The 1st Battalion (Mechanized), 184th Infantry, now part of the 40th Infantry Division (Mechanized), was attached to the 7th Infantry Division as part of the Korean occupation force at the end of World War II.

North Carolina's 30th Infantry (Mechanized) Brigade (Separate) will deploy a battalion task force with personnel and equipment to Italy during DISPLAY DETERMINATION 86. The deployment of the task force is the second iteration of what is now a biennial participation by the 30th Brigade in this NATO deployment exercise. A total of 34 Army Guard units, consisting of the 30th Infantry (Mechanized) Brigade and its supporting CAPSTONE trace, will participate in DISPLAY DETERMINATION 86.

GALLANT EAGLE 86, a major Third U.S. Army field training exercise will be conducted in southern California during FY 86, involving almost 3,500 Army Guard personnel in 42 combat service support units and unit cells. Our units will provide logistical support to the participating Active Component maneuver units of Third Army.

BLAZING TRAILS is the umbrella title for all Reserve Component engineer exercises conducted in Latin America. During 1985, 12,200 Army Guard personnel in units and unit cells conducted engineer and logistical support training in Panama. Two engineer battalions' and the equivalent of one support battalion's equipment were shipped to Panama and used by a variety of units conducting 2 week rotations throughout the 5 month exercise. In 1986, 6000 ARNG personnel will conduct engineer and support training in both Honduras and Panama, shipping heavy engineer and support equipment by U.S. Navy sealift.

The Army National Guard Overseas Deployment Training (ODT) program experienced substantial growth in size and significance during 1985, growing to 25,717 personnel in 865 units and unit cells training in 44 countries around the world. We anticipate continued growth in 1986, with nearly 26,000 personnel in over 1,100 units and unit cells currently scheduled to conduct ODT. Those numbers will climb as plans for increased training opportunities in Central and South America, the Caribbean, and the Pacific Basin reach fruition.

Individual Training

The Key Personnel Upgrade Program (KPUP) continues to pay high dividends for our soldiers by providing them an opportunity to practice their military specialties with Active Component units in nearly every Army exercise. KPUP was expanded in 1985 with the advent of centrally-managed KPUP programs. These programs, which expanded the KPUP program to overseas commands, were established for: (1) Medical KPUP to Europe, training over 200 doctors and nurses in exercises in Germany, Italy, and Belgium; (2) Chaplains KPUP to Europe, training 36 ARNG chaplains with Active Component units in Germany; (3) REFORGER KPUP, training 496 personnel with Active Component units playing in the REFORGER exercise in Germany; (4) TEAM SPIRIT KPUP, training 164 personnel with Active Component units in Korea; (5) Signal KPUP to Korea, training 125 ARNG soldiers holding signal military occupational specialties with Active Component units in Korea; (6) Combat and Support Skills KPUP to Europe, training 548 personnel with Active Component units throughout Europe; and (7) Combat and Support Skills KPUP to Korea, training 110 ARNG soldiers with Active Component units throughout Korea. Since these programs were established in 1985, we anticipate they will experience the same exponential growth characteristic of the overall KPUP program.

Another notable expansion of KPUP in 1985 involved participation by Army Guard soldiers with Active Component units at the NTC. In 1985, over 2,500 of our personnel gained valuable experience alongside Active Component unit members at that outstanding facility.

NCO Education and Training

Non-commissioned officers (NCO) are the key element in training soldiers for combat and leading them into battle. In order to ensure that NCOs are professionally competent and can fulfill their mission, we have dedicated extensive resources to provide innovative training opportunities for individual improvement to our NCOs and NCO candidates within the Reserve Component Non-Commissioned Officer Education System (RCNCOES). Included in RCNCOES are the Primary Leadership Development Course, Advanced NCO Course, Senior NCO Course, and the First Sergeants Course. These courses are available to all drilling Army Guard personnel, in addition to similar Active Component courses, and are oriented toward professional development of the NCO and leadership skills.

More than 33,000 Army Guard soldiers graduated from RCNCOES courses in FY 85, greatly exceeding estimated attendance. Our FY 86 goal is to graduate 35,000 personnel. Current participation indicates that we will exceed our goal by approximately 5,000. This reflects a growth of approximately 600 percent in the RCNCOES program since its inception in FY 80 with the growth continuing in FY 87 and beyond.

Current tactical doctrine recognizes the high mobility and fluid nature of the modern battlefield. Lessons learned throughout history have pointed out that all soldiers must be prepared to fight as infantrymen and be able to survive under adverse conditions found on the battlefield. Even though soldiers receive combat training early in their careers, these skills may suffer erosion due to doctrinal changes and addition of modernized equipment systems as they pursue MOS development. The Army National Guard Battle Skills Course (BSC) was developed to sustain combat skills among our NCOs and to better prepare them to lead and teach subordinates. It provides essential performance-oriented training, reinforcing previous training for some students while providing initial combat skills training for others. BSC addresses the technical aspects and tactical employment of infantry squad and platoon weapons systems, live familiarization firing with each of the weapons systems, the use of supporting weapons systems available to the infantry squad or platoon, and battlefield survival techniques. BSC is a 15 day course conducted at Camp Robinson, Arkansas, 17 times a year and is open to all enlisted Army Guard members who are sergeants (E5 or higher), regardless of their military assignment. More than 2,300 of our soldiers have graduated from BSC since its inception in FY 84. We expect 2,500 soldiers to graduate in FY 86 and approximately 3,000 more in FY 87.

The Reserve Component Tank Commander's Course (RCTCC) is conducted at Gowen Field, Idaho. It is a two week program that was initiated in FY 84 to train NCOs in the duties of tank commander. It provides tank commanders with the training required for instructing crew drills and basic armor skills to their tank crews. Over 1,200 soldiers have graduated from RCTCC and we expect to continue graduating approximately 800 students from this program annually. This course is considered by the armor community as the finest tank commander's training being conducted in the Army today.

RCNCOES, BSC, and RCTCC were all developed with the objective of providing essential training opportunities for citizen soldiers who do not have the luxury of being able to leave their civilian jobs for extended periods. We have set professional standards for our full-time force which are the same as their Active Component counterparts. To accomplish this self-imposed standard, we developed a Military Education Program (MEP) for our Active Guard/Reserve (AGR) and military technician personnel. In most instances, MEP requires personnel to attend courses conducted at Army service schools at an appropriate time in their career. AGR personnel must fulfill MEP requirements as a prerequisite for continued employment and military technician personnel will be denied military promotions until they have successfully completed the required training. In addition to the military training aspect of MEP, the majority of AGR and military technician personnel have an additional requirement to complete job-related proponency courses conducted at the National Guard Bureau's Professional Education Center, Camp Robinson, Arkansas. Full-time support personnel are valuable and integral members of their units. They have been instrumental in improved unit readiness, quicker deployability, and providing quality leadership in their units. To lessen the standard contained in the MEP would result in a less effective and ready Army National Guard. Participation in MEP and proponency courses will ensure that our full-time force will continue to provide the competency expected of professional soldiers and will assure improved readiness throughout the Army National Guard.

Aviation Training

Throughout the past decade, new training requirements such as instrument qualification, terrain flying, aerial gunnery, and night tactics have been added to previous requirements for Army Guard aviators and units without the corresponding means of accomplishing them. In addition, increased reliance on Army Guard aviation, as part of the Total Force, and significant increases in our associated aviation force structure have occurred. In an effort to reduce the current and projected aviator training workload of the states and territories, we have developed two centralized Army National Guard Aviation Training Sites (AATS). Training offered at the AATS will produce combat ready aviators while allowing the states to concentrate on unit level training. The Eastern AATS, located at Ft. Indiantown Gap, Pennsylvania, emphasizes individual qualification training in both fixed wing and rotary wing aircraft unique to the Army National Guard. A UH-1 Flight Simulator is operated there accruing annually in excess of 7,000 hours and serving nearly 1,100 Army Guard, Army Reserve, and Active Army aviators per year. In FY 85, the Eastern AATS trained in excess of 550 students in 30 different courses and graduated its 1,000th student since becoming operational in August, 1981. The Western AATS, currently under construction in Marana, Arizona, will provide not only individual qualification training in rotary wing aircraft unique to the Army National Guard, but will also conduct AH-1 training. Training will begin in the latter part of FY 87 and is expected to reach capacity in FY 88. Both the Eastern and Western AATS will operate an AH-1 Flight Weapons Simulator in FY 88 that will serve the regional needs of approximately 500 attack helicopter aviators. The types and quantities of courses offered at the AATS focus on the resource intense training requirements that are costly in terms of manpower, terrain, and time at the state level. Through utilization of the AATS, more time will be available for unit level training during scheduled drills and annual training periods.

We have established an intensive night vision goggle (NVG) training program to meet aviation mission requirements. This training requires not only specific flight training but specialized equipment. The Aviator's Night Vision Imaging System (ANVIS) has been designed to help the aviator meet this essential mission requirement. It is necessary that the Army National Guard receive ANVIS in the near future for our aviation units to increase operational capability, cockpit compatibility, safety and reliability. We are in the fourth year of an eight year NVG qualification training program. This program requires the qualification of all of our rotary wing aviators by FY 87 and maintenance of proficiency for aviators assigned to tactical units. This training is being accomplished commensurate with the availability of resources required to conduct NVG training. To date, 48 percent of our aviators have been trained with NVGs without an aircraft accident. At the conclusion of this program, our tactical aviation units will have a 24-hour day/night mission capability.

The Department of Defense in 1964 authorized a maximum of 24 paid additional flight training periods (AFTP) annually for each Army Guard aviator in addition to the 48 assemblies conducted by the individual's unit. The greater complexity of aircraft, increased exposure to hazards, and associated demands upon the aviator's time have increased significantly since that time. The original intent of the AFTP program was to enhance aviator proficiency through increased opportunity to fly, thereby enhancing safety. Today, the AFTP program has also become essential to acquire and maintain the combat readiness of Army Guard tactical aviation units. To ensure the attainment of a satisfactory degree of combat effectiveness within Army National Guard aviation units, the Army has prescribed aircrew training and readiness standards through the Aircrew Training Program. This has resulted in a significant increase in training requirements and flight hours without a corresponding increase in available training time. The need for increased AFTPs for Army National Guard aircrews has been recognized and supported by the Assistant Secretary of Defense for Reserve Affairs. An increase in AFTPs, beginning in FY 86, will enhance the attainment and sustainment of Army Guard aviator crew member skills through increased opportunities to participate in tactical training. AFTPs have been increased proportionally to aircrew combat training requirements, based upon the mission of the aircraft being flown, and will enhance sustained year-around combat readiness in Army Guard tactical aviation units.

Safety

We constantly train in a dangerous environment. Emphasis on safety in training has come to the forefront in all that we do. It is essential that our commanders, at every level, exercise supervision and awareness to ensure that very dangerous training situations to which our soldiers are being exposed are conducted as safely as possible.

Our aviation accident rate decreased from 2.58 accidents per 100,000 flying hours in FY 84 to 1.53 in FY 85. Human error on the part of commanders, supervisors, maintenance personnel, and aircrews continued to be the major factor in these accidents. Individual accountability at all levels, intensive management of aviation safety school quotas, expansion of training programs, analysis of preliminary reports of aircraft mishaps, the OPERATION SAFEFLIGHT Program, and quarterly aircraft accident review and trend analysis videotapes are major elements in the countermeasure program developed to further the aviation accident prevention program.

During FY 85, we experienced a 13 percent reduction in motor vehicle accidents from the FY 84 level with a rate of 1.60 accidents per one million miles of exposure. A 28 percent reduction was achieved in Army combat vehicle accidents. Non-fatal injuries sustained were reduced 15 percent from FY 84; however, fatal injuries increased 45 percent. To enhance the accident prevention program, we directed our units to designate one of our full-time support personnel as a unit safety assistant. We also developed and fielded a unit safety officer/NCO training course. This training course covers such subjects as Army motor vehicle safety, accident causation, accident investigation and reporting, range safety, weapons and munitions safety, and shop safety as well as off duty/recreation safety. In addition, a national safety awareness program has been distributed to all of our units. The FY 85 program, entitled Operation Safe Guard V - "Be in Control", was targeted at reducing the human error factor through by-the-book operations and emphasis on personal awareness and supervisory responsibilities. Our analysis indicates a 12 percent reduction in FY 85 accident frequency from that experienced in FY 84.

Training Support

We have developed a strategy to improve training opportunities and effectiveness during Inactive Duty Training (IDT), thus enhancing training and improving unit readiness. The "Interlocking Training Strategy" provides the cross-walk from platoon through company to battalion level training outlined as follows:

a. Armory/Garrison training areas employ training devices and simulation exercises to provide training through platoon level.

b. Local training areas are developed to provide training through company level on modern, state-of-the-art equipment/devices to include company and team combined arms live fire exercises or their subcaliber and/or Multiple Integrated Laser Engagement System (MILES) equivalent.

c. Major training areas, normally Annual Training (AT) locations, are devoted to the support of battalion/task force maneuver and combined arms live fire training exercises.

To support our "Interlocking Training Strategy", a full complement of training devices, simulators, and simulations are essential. This becomes critical in light of the unprecedented integration of modern weapons systems and the increased reliance upon Reserve Component units for war time missions. The FY 86 budget reflects a $37 million commitment by the

Department of Army to provide the Army National Guard with technologically advanced state-of-the-art training devices. Procurement of 192 platoon sets of MILES equipment for each of our maneuver battalions is scheduled. Additional devices such as the Tank Gunnery Missile Tracking Systems (103 total), the Dragon Launch Effects Simulators, Stinger Launch Simulators, maintenance trainers, and chemical detector trainers are scheduled for procurement as part of the $37 million package. Congress provided an additional dedicated appropriation of $50 million for Non-System Training Devices to the Army Guard in FY 86 which will be utilized to procure a second platoon set of MILES devices for 192 of our battalions, as well as Electronic Information Delivery Systems (EIDS), maintenance devices, and a Short Range Air Defense (SHORAD) Dome Trainer.

Congress also appropriated $5 million for research and development of Army Reserve Component unique training devices. These funds will be applied to the development of the training device initiative entitled Guard Unit Armory Full-Crew Interactive Simulation Trainer (GUARDFIST). The GUARDFIST initiative complements the "Interlocking Training Strategy" by providing full crew training at the armory/garrison training areas utilizing high technology, interactive video devices. Current initiatives include an armor device and an artillery device, dubbed GUARDFIST I and GUARDFIST II, respectively. Our tank modernization effort will provide the Mobile Conduct of Fire Trainers (MCOFT) for our units receiving the M1 and M60A3 tanks and the M2/M3 Bradley Fighting Vehicles. Deliveries begin in FY 86.

Another effort to improve IDT training involves the modernization, upgrade, and expansion of local training areas to offer the best opportunity for tactical training close to home. It is designed to maximize time, fuel, and ammunition while reducing materiel operating cost.

Coordination and development continue for a Regional Training Center (RTC), Regional Maintenance Training Sites (RMTS), and Regional Training Sites-Medical (RTS-MED). The RTC planned for Ft. Dix, New Jersey, will be a test-bed facility for developing combat arms, combat support, and combat service support soldier skills through a device-based training strategy. The RTC's battle simulation center will provide leader training at battalion, brigade, and division level. The RMTSs will be located in areas with a high density of non-divisional maintenance units. Pilot RMTSs are scheduled for Camp Shelby, Mississippi and Fort Bragg, North Carolina during FY 86. The RMTS will be the keystone in training for Reserve Component non-divisional maintenance personnel to repair current and modernized equipment. The RTS-MED will provide Army Guard medical units with complete sets of Deployable Medical Systems hospital equipment for training while affording standby emergency support to civil authorities in disaster scenarios. Army Guard medical units will deploy to the sites, draw hospital equipment, and perform training in a field environment. The two Army Guard locations, Camp Shelby, Mississippi and Ft. Indiantown Gap, Pennsylvania, will be operational in FY 88 and FY 89, respectively.

READYING/MOBILIZING THE GUARD

The Army National Guard continues to receive higher priority missions and demanding deployment schedules. Since 1984, the number of Army Guard units with priority missions has increased by 25 percent to a level where 85 percent of our deployable units have such missions. This includes units that deploy from D-day to D+60 and others with high priority sustaining base, training base or theater defense missions. Consequently, it has become increasingly important that our units be manned, trained, equipped, and sustained at a level that will enable them to attain and maintain a combat deployable status.

In FY 85, overall Army Guard readiness, as measured by the Unit Status Report (USR), increased by 5 percent, reversing a downward trend which began three years ago. Indicative of this improved trend were increases in all resource areas: logistics, personnel, and training. In the personnel area, steady improvements were attained in military occupational skill qualification (MOSQ).

Although a positive trend is evident, critical areas impacting on overall readiness remain. Force structure changes and force modernization initiatives continue to impact on Equipment-On-Hand (EOH) and MOSQ. EOH is affected due to requirements to report readiness against new wartime requirements prior to equipment availability. Although the overall MOSQ trend is improving, it is also affected by equipment shortages which inhibit individual/collective training and MOSQ readiness improvements. The result of the changes has been a bias which suppresses readiness ratings reported on the USR.

To address this bias, we developed and disseminated a mandatory policy to manage instant unreadiness. This policy eliminated the reporting bias by providing for delaying effective dates of Table of Organization and Equipment (TOE) changes until adequate resources are available to support them. It also designated certain modernization equipment items nonreportable until resources are available at the minimum combat ready level of fill or until programmed fielding dates for the equipment, whichever is earlier.

In addition to the policy to manage instant unreadiness, we developed the Equipment Readiness Analysis (ERA) program. This computerized program enables us to better manage existing equipment assets by redistributing them throughout the command based upon readiness requirements, optimizing the use of available resources.

To ensure effective implementation of these readiness initiatives, we placed increased emphasis on State Readiness Committees, designed to identify readiness inhibitors and intensively manage corrective action.

These policies to improve readiness, combined with dedicated funding from Congress for procurement of equipment, promises long term positive improvements in readiness.

Although USRs provide an indication of a unit's resource level, the reports do not give a complete picture of combat capability. For example, an armor battalion receives M1 tanks as replacements for its M60s. This increased capability would not be reflected in its USR. In the past, there has been no systematic means for measuring, reporting, and monitoring changes in warfighting capability. As a result, a system called Measuring Improved Capabilities of Army Forces (MICAF) was developed.

MICAF is a computer model which measures the improvements in a unit's capability over time resulting from the receipt of new equipment and serves as a supplement to the USR to provide a bridge between equipment status and unit equipment potential. The MICAF 84 study results showed that warfighting capability for the eight Army National Guard combat divisions improved 20 percent from 1980-1984.

The MICAF 85 study, which also evaluated our separate brigades and Armored Cavalry Regiments (ACR), shows similar capability improvements. Results, though not finalized, indicate that warfighting capability for those same eight divisions, plus our 18 separate brigades and four ACRs, has improved approximately 21 percent from 1980-1985. The Active Component divisions which include Army National Guard roundout units showed even more impressive gains.

As our units are tasked with increasingly demanding missions and deployment dates, our efforts to improve their mobilization preparedness remain an extremely high priority. Over 50 Army Guard mobilization planners were trained at the new Mobilization and Deployment Planners Course at Fort Sam Houston, Texas in FY 85. Plans for FY 86 and FY 87 are to continue input to the course at that level. As our mobilization planning becomes more refined, our methods for exercising plans must also be improved. In that regard, in FY 85, over 600 mobilization exercises were conducted by the states. The exercises included high priority Army Guard units and State Area Commands. More than 150 of these exercises were conducted in conjunction with units participating in Overseas Deployment Training in Europe, Korea, and Latin America. In 1986, it is expected that 650-700 exercises will be conducted. In 1987, for the first time, funding should permit large scale involvement of our combat divisions and separate brigades in the exercise program.

SUMMARY

The Army National Guard of today is very different from the Guard of the past. Training demands and the responsible role played by the Guard in national security place a significant burden on its soldiers and their families. The soldiers are meeting the challenge, often through increased personal sacrifice. Our nation is benefitting from the contribution of our citizen-soldiers. The economies derived from a truly effective Army National Guard are felt across a wide spectrum of our society. All Americans are well served by the results.

ARMY NATIONAL GUARD BUDGET

NATIONAL GUARD PERSONNEL, ARMY

The FY 87 National Guard Personnel, Army (NGPA) budget request of $3,485 million provides pay and related expenses for Army National Guard personnel. Table 1 shows Army National Guard personnel paid end strengths. Table 2 shows NGPA funding by budget activity. The FY 87 request supports a paid end strength of 462,800 personnel. Our FY 87 recruiting objective of 101,099 accessions is composed of 50,835 Non-Prior Service (NPS) and 50,264 Prior Service (PS) personnel. The full-time military Active Guard/Reserve (AGR) support force increases to 28,721 (4,990 over FY 86). Funding requested for NGPA supports increases in: (1) the number of trainees in Pay Group F ($13 million); (2) participation in Schools and Special Training ($69 million); (3) AGR strength ($212 million); and (4) Education Benefits (the New GI Bill)($2 million). The Selected Reserve Incentive Program (SRIP) increases by $.5 million.

TABLE 1

US Army National Guard
(Paid End Strength)

	FY 85 ACTUAL	FY 86 ESTIMATE	FY 87 REQUEST
Pay Group A	388,310	397,395	405,940
Pay Group F	16,231	18,146	19,041
Pay Group P	14,352	11,224	9,098
Active Guard/Reserve (AGR)	21,059	23,731	28,721
Total	439,952	450,496	462,800

TABLE 2

National Guard Personnel, Army
($ in Millions)

	FY 85 ACTUAL	FY 86 ESTIMATE	FY 87 REQUEST
Pay Group A	1,596	1,715	1,709
Pay Group F	201	228	241
Pay Group P	19	18	15
School Training	153	170	207
Special Training	150	160	192
Administration/Support	747	906	1,121
Total Program*	2,866	3,196	3,485

*Totals may not add due to rounding

OPERATION AND MAINTENANCE, ARMY NATIONAL GUARD

The budget activities of the FY 87 Operation and Maintenance, Army National Guard (OMNG) appropriation are shown in Table 3. Real growth in FY 87 (approximately $56.3 million) is composed of: (1) $37.2 million to support an FY 86 Congressional increase in military technicians (2,500) and the FY 87 requested increase in military technicians (500); and (2) approximately $19 million to support the Standard Army Multi-Command Management Information System (STAMMIS). The FY 87 request supports a technician and civilian end strength of 27,553 (27,129 military technicians and 424 Department of Army Civilians) at a cost of $759 million. It provides operational and training support for a paid end strength of 462,800 Army National Guard personnel.

TABLE 3

Operation and Maintenance, Army National Guard
($ in Millions)

	FY 85 ACTUAL	FY 86 ESTIMATE	FY 87 REQUEST
Training Operations	160	177	177
Logistical Support	972	1,066	1,142
Base Operations	127	186	190
Depot Maintenance	47	82	67
Headquarters and Command Support	83	106	138
Recruiting	32	46	50
Medical Support	11	20	23
Total Program	1,432	1,683	1,787

MILITARY CONSTRUCTION, ARMY NATIONAL GUARD

The FY 87 request of $121 million for Military Construction, Army National Guard (MCNG) provides for 56 major projects. Included in the major projects are 16 new armories, alteration/expansion of 13 existing armories, 1 aviation facility, 17 training facilities, 7 equipment maintenance facilities, 1 U. S. Property and Fiscal Office facility, and 1 logistical facility. The requested increase for major construction supports the projects costing $400,000 and less for improved training ranges, storage, and smaller maintenance facilities. Table 4 displays the MCNG appropriation by major category.

TABLE 4

Military Construction, Army National Guard
($ in Millions)

	FY 85 ACTUAL	FY 86 ESTIMATE	FY 87 REQUEST
Major Construction	74	75	97
Minor Construction	16	15	5
Planning and Design	9	12	19
Total Program	99	102	121

MAJOR GENERAL HERBERT R. TEMPLE, Jr.
DIRECTOR, ARMY NATIONAL GUARD

General Temple began his military career as a private in the 160th Infantry Regiment (Los Angeles' Own), 40th Infantry Division, California National Guard, on 2 June 1947. He was called to active duty in September 1950 and served in Korea as a noncommissioned officer with the 5th Regimental Combat Team, 24th Infantry Division. He was discharged from the Army on 23 May 1952 and subsequently rejoined the 160th Infantry Regiment.

After his direct appointment to second lieutenant on 20 October 1952, General Temple served as a platoon leader and company commander within units of the California Army National Guard's 40th Infantry Division and 40th Armored Division. On 1 June 1962, he was promoted to major and served as Assistant G-1 and Acting G-1, 40th Armor Division and S-1 of the 40th Division Support Command. On 15 September 1966, he assumed command of the 40th Supply and Transportation Battalion, 40th Armored Division and was promoted to lieutenant colonel on 16 November 1966. A year later, he became the Commanding Officer, 3d Battalion, 160th Infantry, 40th Infantry Brigade (Separate). On 22 July 1968, he was assigned as an Operations and Training Officer, Headquarters and Headquarters Detachment, California National Guard. He became the Commandant, California Military Academy (State OCS) on 15 October 1970 and was promoted to colonel on 1 November 1970. During the period 22 July 1968 to 3 March 1971, General Temple served as the Military Assistant to the Governor of California. He was assigned as the Deputy Brigade Commander, 49th Infantry (Separate) on 1 November 1971 and on 13 January 1974 became Commanding Officer, 3d Brigade, 40th Infantry Division (Mechanized).

In addition to his military career, General Temple is the former vice-president and part owner of a trucking and transportation company and also served as the Director of California's Office of Emergency Services.

General Temple attended the United States Army War College from July 1974 to May 1975. After receiving his Masters Degree in public administration, he reported to the National Guard Bureau on 12 September 1975 as the Chief, Office of Mobilization Readiness. On 1 September 1976 he became Chief, Office of Policy and Congressional Liaison.

On 1 October 1978 he was promoted to brigadier general and became Deputy Director, Army National Guard. On 19 August 1982 he was appointed Director, Army National Guard and federally recognized as major general.

General Temple has been awarded the Legion of Merit, Meritorious Service Medal, Army and Air Force Commendation Medals, Good Conduct Medal, Korean Service Medal with one Bronze Service Star, Combat Infantryman Badge, Army Staff Identification Badge and numerous other decorations.

GI BILL

Senator STEVENS. Let me ask you, General Walker and General Temple, a question.

I note that the other statements before the committee have been cleared by OMB. Both of yours that I have have a little notation on them, "Not cleared by OMB." A little bird told me yesterday that OMB deleted some items from your statement.

What is the situation?

General WALKER. Sir, to my knowledge, the things that have been deleted from my statement have been items pertaining to the new GI bill.

Senator STEVENS. If it had not been cleared by OMB, how could OMB take out the GI bill?

General WALKER. Sir, what I have told you is the only knowledge I have of what OMB has done with the statement.

Senator STEVENS. These statements have not been cleared yet by OMB? Yours have not been?

I am going to ask questions later about the GI bill.

General WALKER. The one you have, sir, I am told has not been cleared, but our record statement has been cleared.

Senator STEVENS. There is another version that has been cleared?

General WALKER. Undoubtedly so.

Senator STEVENS. Admiral Kempf, do you have a statement, sir?

NAVAL RESERVE

STATEMENT OF VICE ADM. CECIL KEMPF

Admiral KEMPF. I will be brief, Mr. Chairman, and report to you that our ambitious program to expand and modernize the Naval Reserve is on course and accelerating.

We have increased the number of reservists in order to meet wartime requirements as rapidly as feasible.

We are expanding our cadre of TAR personnel to man the increasing number of modern ships and aircraft to support and train a growing numbers of selected reservists.

We are implementing new training programs to keep pace with demands of a more sophisticated Naval Reserve.

We are adding new missions and refining existing ones.

The Naval Reserve is evolving rapidly from a force in reserve to a force in being, a force truly on the move.

I will be happy to respond to any questions.

I will submit my detailed comments for the record, sir.

[The statement of Admiral Kempf follows:]

PREPARED STATEMENT OF VICE ADM. CECIL J. KEMPF, USN

DIRECTOR OF NAVAL RESERVE

Mr. Chairman and Members of the Committee:

It is my pleasure to appear before you today to report the progress we have achieved in the Naval Reserve and to present our program for Fiscal Year 1987.

Selected Reserve Strength

We are continuing to increase our drilling Selected Reserve strength. These Reservists, almost 111,000 at the end of Fiscal Year 1985, are the core of the Naval Reserve program. We expect this portion of our force to grow to more than 118,000 by the end of Fiscal Year 1986, to more than 127,000 by the end of Fiscal Year 1987 and to almost 137,000 in the early 1990's.

The number of full-time active duty Reservists is also programmed to increase from the 19,010 programmed for the end of this Fiscal Year to 23,197 at the end of Fiscal Year 1987.

The Navy depends on a special category of Reservists on active duty, called TARs, to administer and train our drilling Reservists. They are career military who are, generally, indistinguishable from their regular component colleagues. TAR's experience the usual Navy permanent change of station (PCS) moves, are on call seven days a week, and perform the same tasks as their regular Navy counterparts. In fact, at any given time, approximately one out of five TAR officers is serving with a regular component activity. Naval Reserve ships—manned predominantly by Reservists—are programmed to be operated at about 75 percent of the steaming day rate of active force ships that are not deployed. TAR's in our aircraft squadrons receive virtually the same training and meet the same standards as active force personnel, operate from coast to coast, deploy briefly aboard carriers, and—in the case of patrol and transport squadrons—deploy for short periods overseas to fly operational missions for the Navy.

Our expanding Selected Reserve, together with the introduction of state-of-the-art ships and aircraft, mandate that we attract and keep qualified TAR personnel. We need a Selective Reenlistment Bonus (SRB) for Reservists on full-time active duty in support of the Reserve components to succeed in attracting and retaining the skilled personnel required.

Retention of our Selected Reservists is an item of very serious concern. Of particular importance is keeping our members assigned to high-priority units. For example, a Naval Reserve ship is usually underway each drill weekend, including Friday nights, and most of the annual two-week training period. Except for a fifth paid weekend drill, Selected Reserve crewmembers receive no additional incentive for remaining in these units which operate around the clock in an at-sea environment. Other Reservists receive the same pay and drill credit, but usually enjoy free time after normal working hours to be with their families and friends. It is understandably difficult to rely strictly on pride and professionalism to man such units.

The legislative proposal for Unit Incentive Pay of $10.00 per drill would go a long way towards relieving this dilemma. I urge you to consider this request favorably. A modest $50.00 more for each drill weekend, $600.00 per year maximum, would give these Reservists not only a monetary incentive but also a clear recognition that they are contributing more.

Readiness Improvements

Naval Reserve Force readiness has continued to show an overall improvement over the past year. Because of the accelerated transition and modernization program, many of our units must temporarily report reduced readiness while awaiting new equipment, training flight crews, and performing modifications to existing aircraft. Naturally, this lowers the overall readiness of our commissioned units, but it is necessary to improve our capability. Improvements in recruiting, training, and retention have helped to increase the manning of our non-hardware reinforcing and sustaining units that will augment active forces upon mobilization.

Equipment Modernization

The Navy is embarked on an ambitious program to modernize the Naval Reserve. Secretary Lehman's Fiscal Year 1987 posture statement details our "Horizontal Integration" policy:

"To execute this common sense policy, the Reserves must have equipment comparable with the active forces. For instance, instead of providing the Reserves only such equipment as becomes obsolete and is removed from the active force, there must be a spectrum of new and old equipment reflected in the Reserves parallel to and in the same proportion as that in the active force."

Naval Surface Reserve

The Naval Reserve will be an essential part of the 600 ship Navy. By the early nineties more than 50 Naval Reserve ships will be available for immediate deployment with the fleet. This year, we will add four more PERRY class FFG-7s to the Naval Reserve Force, bringing our frigate total to 15. Three more FFG-7s and one FF-1052 in Fiscal Year 1987 will bring us to a total of 19 in our ambitious program to assign 26 modern frigates to the Naval Reserve Force by 1990.

Naval Air Reserve

Nowhere in the Naval Reserve are horizontal integration and modernization efforts more evident than in the Naval Air Reserve. Our first Reserve F/A-18 squadron at NAS Lemoore, California received its initial increment of aircraft in October 1985, and a second squadron will begin transition late this year. Two of our light attack squadrons have transitioned from A-7B to A-7E aircraft, and the other two will transition by September 1986.

Of our four fighter squadrons, two have F-14's and the other two will begin transition to the F-14 late this year. It is noteworthy that the accelerated transition of these last two Reserve F-14 squadrons was made possible by a Congressional addition of $68 million to the FY-85 Budget for the remanufacture and upgrade of 25 pre-production and early production F-14 aircraft to present fleet configuration. Congressional addition of five A-6E aircraft in the FY-86 Budget has also opened the door for establishment of medium attack capability in the Naval Air Reserve.

Training

The primary mission of the Naval Reserve is training to maintain mobilization readiness.

Overall, the quality and availability of training are showing significant improvement. The increases in individual skill levels for our reinforcing units are direct additions to the warfighting ability of the fleet upon mobilization. Gains in these key areas enhance the support the Naval Reserve provides every day to Navy active force units as a by-product of mobilization training.

Total Force Report to Congress

Recently, the Navy submitted the third of its annual reports to Congress on the Navy's Total Force. This report emphasized the progress made in the growth, modernization and integration of the Naval Reserve into the Navy's force structure. The report also highlighted planned Reserve medical manning of fleet hospitals and deployable medical systems. It stressed the Naval Reserve's expanding role in mine warfare and renewed the Navy's commitment to assign all appropriate missions to the Naval Reserve, as well as provide the training and modern equipment necessary for the Reserve to do its job.

NAVAL RESERVE FUNDING REQUEST

The Naval Reserve is provided essential support by two appropriations: Reserve personnel, Navy (RPN) and Operation and Maintenance, Navy Reserve (O&MNR).

Reserve Personnel, Navy

The Reserve Personnel, Navy (RPN) appropriation is divided into two budget activities. Budget Activity One provides funding for Unit and Individual Training. Budget Activity Two funds Other Training and Support, including active duty TAR personnel, the Naval Reserve Officer Training Corps (NROTC), Armed Forces Health Professions Scholarship Program, and the Navy Junior Reserve Officer Training Corps. The total Fiscal Year 1987 RPN request is for $1,527.6 million, $722.0 million for Budget Activity One and $805.6 million for Budget Activity Two. This is an increase of $178.4 million over Fiscal Year 1986. Approximately $155.2 million reflects average strength growth toward NAMMOS attainment in drilling and full-time support categories. The remaining increase is the result of Social Security rate escalation, more NROTC training, and other training support costs.

The average strength of the drilling Reserve and those performing initial active duty training will increase by 9,340 to 126,078. The average strength of full-time support personnel will increase by 3,561 to 21,025, including the TEMAC program. For the first time, the Fiscal Year 1987 Budget Request includes funding for a one day recall of all members of the Individual Ready Reserve (IRR). This screening process will enable the services to evaluate the availability and readiness of this major source of trained personnel.

The requested increases will allow the Naval Reserve to comply with Congressional guidance to increase Reserve Manning for Naval Reserve ships and to continue our growth in Selected Reserve strength to meet mobilization requirements.

Operation and Maintenance, Navy Reserve

The other major appropriation which supports the Naval Reserve is Operation and Maintenance, Navy Reserve (O&MNR).

The Naval Reserve is dependent upon funds in this appropriation for support of Mission Forces, Depot Maintenance, and Other Support. Support for Mission Forces includes funds for fuel, intermediate maintenance, repair parts, and related support for the operation of aircraft in both the Naval and Marine Corps Reserve. It also includes operating, maintenance and support funds for Naval Reserve ships, as well as funds for Reserve Construction Battalions, Cargo Handling Battalions, Mobile Inshore Undersea Warfare units, Special Combat Support Forces, and other Surface programs. Depot Maintenance includes funds for the rework of aircraft and engines, the installation of aircraft modifications and Contractor Engineering Technical Services support. The Other Support category provides funding to operate and maintain Reserve air stations, centers, and other facilities supporting Naval Reserve forces and for various command and administrative activities, including recruiting and advertising.

The funding requested for the O&MNR appropriation for Fiscal Year 1987 is $975.9 million, which is a $63.2 million net increase over the Fiscal Year 1986 funding level of $912.7 million. Overall program growth is $17.4 million, $11.2 million of which results from a functional transfer from the O&MN appropriation to support Naval Reserve ship engineering services and combat system maintenance efforts for a growing force.

The increased O&MNR funding level will provide adequate support for the following areas of growth: (1) increased aircraft operating and maintenance costs in support of a more modern mix of aircraft, including the F/A-18; the expansion of the Marine Corps Reserve KFIR (F-21) adversary aircraft squadron being implemented in Fiscal Year 1986; and the funding of the flying hour program at 87 percent of the Primary Mission Readiness (PMR) level, as compared to 85 percent in Fiscal Year 1986, placing the Naval Air Reserve Forces on the same funding base as the active force; (2) $18.4 million to complete the installation of F-14A modernization kits; (3) increased operations, maintenance, modernization and outfitting costs resulting from three additional FFG-7 class ships and one FF-1052 class ship joining the Naval Reserve; (4) an increase of the Naval Reserve ship OPTEMPO from 14.7 to 21 steaming days per quarter to ensure the operational and training readiness of these vital mobilization assets; (5) expansion of the mine countermeasures Craft of Opportunity (COOP) program; (6) establishment of the first Naval Reserve Cargo Handling Training Battalion to be manned primarily by TAR personnel; (7) increased training, equipment, and base operating support requirements associated with growing Selected Reserve strength levels as the Naval Reserve builds toward the Navy Manpower Mobilization System (NAMMOS) goals; and (8) increased advertising efforts specifically targeted to help meet the strength and quality goals of an expanding Naval Reserve.

SUMMARY

Our ambitious program to expand and modernize the Naval Reserve is on course and accelerating.

We are increasing the number of Selected Reservists in order to meet wartime requirements as rapidly as feasible.

We are expanding our cadre of TAR personnel to man and support increasing numbers of modern ships and aircraft and to support and train a growing Selected Reserve.

We are implementing new training programs to keep pace with the demands of a more sophisticated Naval Reserve.

We are adding new missions and refining existing ones. We are proud to say that the Naval Reserve is evolving rapidly from a force in reserve to a force in being—A Force On The Move.

I will be happy to respond to any questions or provide any additional information you may require.

VICE ADMIRAL CECIL JOSEPH KEMPF, U. S. NAVY

Vice Admiral Cecil J. Kempf, USN is the son of the late Mr. and Mrs. John J. Kempf of Kilgore, Texas. He was born on 20 November 1927.

Vice Admiral Kempf began his naval career in May 1946 as a Naval Aviation Cadet (V-5 Program). That same year he received an appointment to the U.S. Naval Academy. He was graduated "with distinction" and commissioned an ensign in the U.S. Navy in June 1950.

Upon being designated a naval aviator in November 1951, Vice Admiral Kempf served with several aircraft squadrons for the first 20 years of his career. His significant sea tours include Commanding Officer of Air Antisubmarine Squadron 31, Commander Carrier Antisubmarine Air Group 60, Commanding Officer of USS DUBUQUE (LPD 8), and Commanding Officer of USS TRIPOLI (LPH 10).

Vice Admiral Kempf holds a Master of Science degree in Aeronautical Engineering from Massachusetts Institute of Technology. Several of his shore tours have been involved with research and development, including development of the Navy's S-3A carrier-based antisubmarine aircraft. He served as S-3A Deputy Project Manager in the Naval Air Systems Command and later as S-3A Program Coordinator for the Chief of Naval Operations.

Vice Admiral Kempf was promoted to flag officer and assumed duties as Commander, Antisubmarine Warfare Wing, U.S. Pacific Fleet in March 1976. In September 1978 he reported to the Deputy Chief of Naval Operations (Air Warfare) as Director, Aviation Programs Division. In June 1979 he became Vice Commander of Naval Air Systems Command, and in July 1981 he assumed duties as Assistant Deputy Chief of Naval Operations (Air Warfare). On 2 December 1983 Vice Admiral Kempf became Commander, Naval Reserve Force and Chief of Naval Reserve, with additional duty as Director of Naval Reserve in the Office of the Chief of Naval Operations. He was promoted to Vice Admiral in this job on 22 November 1985.

Among his service awards and military decorations, Vice Admiral Kempf wears the Legion of Merit. He is married to the former Theodosia Ann Suman of Lanham, Maryland. They reside at 88 Westover Avenue, Bolling Air Force Base, in Washington, DC. They have three grown children.

AIR NATIONAL GUARD

STATEMENT OF MAJ. GEN. JOHN CONAWAY

Senator STEVENS. Thank you very much.

General Conaway.

General CONAWAY. Thank you, Mr. Chairman.

It is a pleasure to appear before you and the other members on behalf of the Air National Guard.

Today we have over 110,000 personnel, our highest strength in history, and we thank this committee for their help in attaining the highest state of readiness and sustainability in our history.

We are ready to go as a full partner with the Air Force wherever they need us. We perform missions around the world, as you and the committee know.

On April 1, we start a 1-year period of assisting the Air Force with air defense alert in Europe while they are going through some conversions. In fact, the North Dakota Air National Guard is taking the lead in this alert commitment.

Our fiscal year 1987 strength is programmed to reach 115,000 personnel, sir, and our growth is all tied to increased missions that the Air Force has asked us to pick up. We need that.

We have some growth in our O&M, again tied to what the Air Force is asking the Air Guard to do.

For our Mississippi members here, we start conversion this summer to C–141's in Jackson, MS.

The Air National Guard has returned to strategic airlift which we are very excited about and we are confident that they will do well.

We appreciate the support of this committee. I stand ready to answer any questions.

I do have some serious impacts from Gramm-Rudman-Hollings and part of it is based on our increased missions. We are being cut by Gramm-Rudman at the same time.

[The statement of General Conaway follows:]

PREPARED STATEMENT OF MAJ. GEN. JOHN B. CONAWAY

DIRECTOR

AIR NATIONAL GUARD

Mr. Chairman and members of the Committee, it is my pleasure to once again report to you on the current status of the Air National Guard. With your support, we continue to make progress toward improving the readiness and capability of our 91 flying units and 244 mission support units. Last year, I talked about our aircraft modernization program and the initial assignment of C-5s, C-141s, F-15s and F-16s to the ANG. Our FY 1987 schedule is an extension of that program. During the FY 1986-87 time frame, we have nine units scheduled for conversions, eleven units for series changes, and ten other units for robusting of their aircraft inventory.

During FY 1987, our F-4C unit at Hickam, HI will convert to F-15s, our F-106 units at Jacksonville, FL and Otis, MA will convert to F-16s, and our KC-135 unit at Little Rock, AR will convert to C-130Es. In addition, we recently announced two additional FY 1986 conversions which will take place at Burlington, VT (F-4D to F-16) and Dobbins, GA (F-4D to F-15). Series changes will see the F-4C units at March AFB, CA, Niagara Falls, NY, and Ellington, TX change to F-4Ds, while the C-130A unit at Saint Joseph, MO and the C-130B unit at Dallas, TX will change to C-130Hs. Our units at Charlotte, NC and Martinsburg, WV are scheduled to robust their aircraft inventory from 8 to 12 C-130Bs; New Orleans, LA will robust from 18 to 24 F-15s; and our Tucson, AZ Replacement Training Unit will increase from 6 to 18 F-16s. We will activate an Aerial Refueling Squadron at Eielson AFB, AK by placing 4 KC-135Es at that location. This squadron will be attached to the ANG Composite Group at Anchorage, AK. Thanks to the assistance of Congress and the Air Force, some of our units will upgrade their operational support aircraft by replacing their older C-131s with more capable C-130As and new C-12s. Congressional and Air Force support of the Guard and Reserve Forces has made modernization a reality. The modernization programs, as well as Congressionally supported F-4, A-7 and KC-135 aircraft modification initiatives, have given new life to the ANG aircraft fleet and to the people who maintain and fly those aircraft.

As a result of our modernization efforts, Air National Guard flying units continue to make a substantial contribution to the total Air Force combat capability and will fulfill a large portion of force commitment during any future crisis. In FY 1987, the Air National Guard will possess 73 percent of the total Air Force air defense interceptor forces; 52 percent of tactical reconnaissance forces; 34 per cent of tactical airlift forces; 25 percent of tactical fighter forces; 17 percent of aerial refueling forces; 13 percent of rescue and recovery forces; 14 percent of special operations forces; 24 percent of tactical air support forces; and 4 percent of strategic airlift forces.

Equally important to the success of the Air National Guard are our mission support units. There are 244 independent units heavily concentrated in the areas of communications, weather, tactical control and civil engineering. There are also 298 mission support units located with our flying units. These are primarily medical, civil engineering, security and aerial port units.

Like their flying unit counterparts, our mission support units contribute heavily to the total Air Force combat capability. In FY 1986, the Air Guard will possess 65 percent of the Air Force combat communications forces, 55 percent of the Air Force's engineering and installations forces, 30 percent of the civil engineering forces, 55 percent of tactical weapons control, 10 percent of the weather reporting and forecasting forces, 72 percent of the aircraft control and warning forces, and 12 percent of the aerial port forces.

Air National Guard strength levels are at an all-time high. With approximately 110,000 personnel presently assigned, we anticipate meeting our FY 86 end strength of 110,859 and moving on toward our FY 87 end strength target of 115,200. Even with this unprecedented growth, we have not been able to fill 100 percent of our wartime requirements. We still have some hard to fill vacancies, and through our selective recruiting efforts, we hope to fill those voids.

Each ANG unit is an active part of the total force. Almost every unit is involved in a simulated wartime training activity during the year. We have increased our participation in JCS exercises, overseas deployments and joint training exercises to prepare our forces for mobilization. Operational Readiness Inspections (ORIs) are also conducted under simulated wartime conditions. As a result, the ANG is more ready today than ever before.

There are a number of contributing factors to our readiness. Recent adjustments to ANG precedence ratings in the DoD Logistics System have given us parity with like Air Force units. As a result, we have improved our equippage and support posture in consonance with DoD policies. Newer, more modern equipment is also a factor as fewer logistical problems exist. And, our people are putting forth a superb effort. Realistic training and increased activity provides a solid base in preparation for ORI's. These inspections are conducted using realistic wartime scenarios that inject stress and require unit commanders and staff to make decisions that closely approximate what would or could be done in an actual wartime environment. The majority of Air National Guard units now deploy from their home station to Air Guard Field Training Sites and other locations for their inspections. These deployments accentuate mobility training and experience in unit operations in unfamiliar environments and have materially enhanced unit readiness and capability. An Air National Guard unit (263rd at Badin, NC) was the first of any Air Force Combat Communications units to receive an outstanding ORI rating.

In reviewing the mix of active and reserve forces, I feel that the Air Force has achieved a well balanced mix. The primary Air National Guard mission should continue to be to provide properly trained and equipped units for mobilization whenever and wherever called upon in a time of crisis. As evidenced by our increased readiness, our flying and mission support units stand ready to respond in any mission area, both State and Federal.

As more modern aircraft and equipment become available, robusting of some ANG units will continue to provide increased capability at relatively low cost. More combat flying units would not add more overall capability nor would it be cost effective. Transfer of active force missions with high levels of peacetime activity neither fits the basic mission of the ANG nor results in any significant economy of operations. We are better able to take advantage of available local manpower resources and lower costs of peacetime operation when we are training to provide a true mobilization force.

OPERATION AND MAINTENANCE BUDGET REQUIREMENTS

Operation and Maintenance funds are a key ingredient of force readiness. These funds are used to buy aviation fuel and flying hour supplies, perform depot maintenance on our weapons systems and their components, maintain our facilities, and pay our civilian employees.

The following table shows Operation and Maintenance, Air National Guard funding data for FY 1985-87.

($ in millions)

Budget Activity	FY 1985	FY 1986	FY 1987
Mission Forces	$1,343.2	$1,338.2	$1,437.9
Depot Maintenance	353.5	353.6	374.9
Other Support	127.9	121.4	119.9
TOTAL	$1,824.6	$1,813.2	$1,932.7

The Air National Guard Operation and Maintenance request for FY 1987 reflects an increase of $119.5 million over FY 1986 and provides real growth of 5.8 percent. The request includes program growth of $105.4 million and price growth of $14.1 million and is needed to support the Air Guard's readiness and training requirements as weapon systems modernization continues in FY 1987.

Mission Forces. This budget activity funds our flying and mission support operations. This activity has program growth of $85.2 million and price growth of $14.5 million. Major increases in this activity are the purchase of data automation equipment for the Core Automated Maintenance System ($12.5 million); federal contribution towards the Federal/State Operation and Maintenance Agreements due to completion of construction projects at 24 ANG installations ($19.4 million); costs associated with increase of 9,055 flying hours ($18.6 million); organizational clothing and equipment purchases to reduce wartime requirements backlog ($15.1 million); revision of expense and investment criteria which transfers funding from Procurement to Operation and Maintenance Appropriations ($5.3 million); and support of additional civilian and military workyears ($4.0 million).

Depot Maintenance. This activity supports funding for all centralized maintenance and modification of our weapon systems and other equipment performed at the Air Logistics Centers. There is program growth of $23.3 million which is offset by price reductions of $2.0 million. Major program changes are reflected for F-4E and EC-130E aircraft with associated modifications ($12.6 million); overhauls of aircraft engines and communications equipment ($26.0 million); and exchangeable items for F-4 and F-16 aircraft ($3.3 million). An offset ($17.5 million) is identified as a result of decreased F-4C requirements because of accelerated conversions.

Other Support. This activity funds the operation of the ANG support aircraft flying program, the National Guard Bureau's Air Directorate, real property maintenance, and base operating support for the six bases for which the ANG is host or single manager (Buckley, Ellington, Otis, Rickenbacker, Selfridge and McEntire). For this activity there are program reductions of $3.1 million and price growth of $1.6 million. Primary reason for decrease in this activity is one-time FY 1986 real property maintenance contracts ($4.0 million).

MILITARY PERSONNEL BUDGET REQUIREMENTS

Military Personnel funding provides for the pay, allowances, clothing, subsistence and other expenses of Air National Guard members.

The following table shows the National Guard Personnel, Air Force funding data for FY 1985-87:

($ in millions)

Budget Activity	FY 1985	FY 1986	FY 1987
Unit and Individual Training	$ 525.8	$ 559.6	$ 579.4
Other Training and Support	359.4	434.8	479.5
TOTAL	$ 885.2	$ 994.4	$1,058.9

The Air National Guard's FY 1987 Military Personnel budget request increases by $64.5 million. This increase provides 6.3 percent real growth over FY 1986. I would like to summarize the more significant elements of the program.

Unit and Individual Training. This budget program finances those personnel who annually perform 15 days of active duty for training, 48 inactive duty drill periods, and additional flying training periods (Pay Group A). It also includes basic training for non-prior service enlisted personnel as well as their follow-up training at either home station or formal Air Force technical schools (Pay Group F). Lastly, it includes funding for the pay of high school graduates and seniors who are awaiting entry into basic training (Pay Group P).

The FY 1987 budget request for Unit and Individual Training increases by $19.8 million. This increase consists of $19.2 million in program growth and $0.6 million in price growth. Major changes impacting funding levels are strength increases associated with force changes ($2.5 million), impact of prior year growth ($6.9 million), increased percentage of manning ($1.4 million), and increased Retired Pay Accrual costs associated with program increases ($5.6 million).

Other Training and Support. This budget program includes formal school training for our personnel; special training tours of active duty; pay, allowances, and other expenses for personnel on full-time active duty; and other costs such as enlistment and reenlistment bonuses, educational assistance, selective affiliation bonuses, student loan repayments, disability payments and hospitalization costs for personnel injured in the line of duty.

The FY 1987 budget request for this category increases by $44.7 million above FY 1986. The increase consists of program growth of $43.4 million and price growth of $1.3 million. Increased funding requirements are reflected for Initial Skills Acquisition Training ($0.9 million), Refresher and Proficiency Training ($0.9 million), Unit Conversion Training ($0.7 million), Direct Unit Support ($15.9 million), United States Air Force Mission Support ($7.4 million), training requirements as a result of increased aircraft ($3.2 million), and Retired Pay Accrual costs associated with all program changes ($11.2 million).

SUMMARY

The Air National Guard stands ready to meet the challenges we are given. The capability of our citizen airmen to respond to the most demanding wartime tasking is a matter of record. We appreciate the continuing support of Congress, as that support has permitted the Air National Guard to make significant progress toward our goal of strength through readiness.

Mr. Chairman, this concludes my prepared statement. I will be happy to respond to any questions you may have.

MARINE CORPS RESERVE

STATEMENT OF MAJ. GEN. L.H. BUEHL

Senator STEVENS. General Buehl.

General BUEHL. Thank you, sir.

I appreciate the opportunity to appear in front of your committee and to also say how much we are obliged to you for your support in the past.

With your help, the Marine Corps Reserve will continue to accomplish its main task, to be, one, fully integrated; and two, compatible and interoperable with our active components.

Quality manpower, as General Kelley has said so many times, will be available for us to discharge our assigned missions and support what we have introduced for required structure growth. The Marine Corps Reserve will continue to train effectively in order to field combat ready units for successful warfighting when they are required.

Your continued support and assistance in this regard is appreciated.

I am ready to answer any of your questions.

[The statement of General Buehl follows:]

PREPARED STATEMENT OF MAJ. GEN. L. H. BUEHL, III

DEPUTY CHIEF OF STAFF FOR RESERVE AFFAIRS

U. S. MARINE CORPS

Mr. Chairman, distinguished members of the Committee, it is a privilege to report to you on the current and future posture of the Marine Corps Reserve.

Your intense interest in the Reserve and its role within the Total Force during this time of budgetary constraints has had a positive impact on the status of the Marine Corps Reserve. Thanks to your support during the past year, the U.S. Marine Corps Reserve has continued to strengthen and improve its combat readiness.

My assessment of our Reserve is based on a fresh perspective and broad examination during the short time since assuming my post. In essence, I am pleased to report to this Committee the Marine Corps Reserve is in the best shape ever with respect to force structure, modernization, sustainability, and overall readiness to fight. Examples of this improved posture are evident in several areas: participation by approximately 20,000 reservists in major exercises within CONUS and abroad (Canada, England, and Japan); upgrading of aircraft in the Reserve inventory to improve compatibility with the Active Force; and the achievement of 100% combat readiness for all 49 air and ground units tested in FY 85. With the continued support of Congress and the Administration, this trend will continue, and the full potential of the U.S. Marine Corps Reserve's capability to contribute to the national defense as part of the Total Force will be realized.

RESERVE ROLES

Charged with providing the means for rapid expansion of our Corps during a national emergency, the U.S. Marine Corps Reserve is the underlying foundation for sustainability upon mobilization. With trained units and qualified individuals on call to rapidly augment and reinforce Active Forces in response to crises, the U.S Marine Corps Reserve provides a valuable added dimension within the "Total Force" policy.

U.S. Marine Corps Reserve roles upon mobilization will be to:

- Selectively augment the Active Forces in order to field three active Marine Amphibious Forces (MAF's) at full wartime structure.

- Selectively reinforce the active MAF's with SMCR units.

- Provide the capability to field a MAB (with reduced aviation and limited CSS capability) to reinforce an active MAF.

- If augmentation/reinforcement is not ordered, provide the capability to field a Division, Wing, and FSSG with reduced capability.

- Provide a nucleus to reconstitute a Division, Wing, and FSSG.

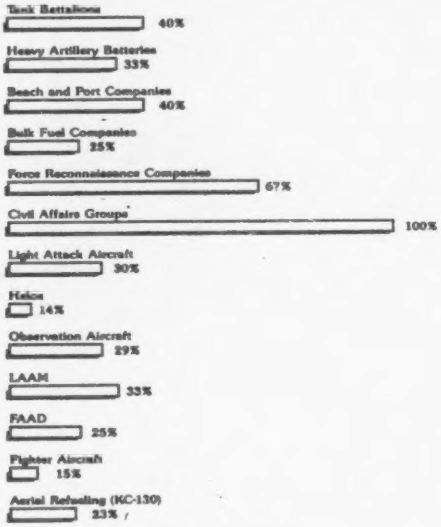
Our Reserve is capable of executing these responsibilities, but improvements which enhance manpower, equipment, and training programs are still required. Funding of the programs submitted will permit continued evolution of the Marine Corps Reserve to successfully realize its fullest potential as a contributor to our National Defense.

The active component of the Marine Corps provides the National Defense effort a capable, ready, and flexible resource based on three active Marine Amphibious Forces (MAF's). This unique capability is contingent on the ability of the Navy-Marine Corps team to forward deploy Marine Air-Ground Task Forces (MAGTF's) which are tailored to mission requirements. Requirements for Active Force manpower are driven by peacetime commitments, forward deployments, rapid deployment criteria, and the need for a "rotation base." The Reserve complements this force with a capability to rapidly expand structure to required warfighting capability.

Considered as a Total Force, 25% of the combat structure and 33% of the trained manpower are in the Reserve.

The Individual Ready Reserve (IRR) provides a substantial portion of this manpower. Our mobilization assignment system ensures the skill and experience of these reservists can be quickly assimilated into the force if required. The Selected Marine Corps Reserve (SMCR) contributes trained units which are organized into the 4th Marine Division, 4th Marine Aircraft Wing, and 4th Force Service Support Group. Including 9 infantry battalions and 18 flying squadrons, these organizations represent substantial combat and combat service support capabilities. Examples of the extent of this support to our Corps include: 100% of the Civil Affairs Groups; 67% of the Force Reconnaissance Companies; 40% of the Tank Battalions; 33% of the Heavy Artillery Batteries; 30% of the Light Attack Aircraft, 23% of the Aerial Refueling Aircraft, and 15% of the Fighter Aircraft. Depicted in the following chart are the major contributions made by the Reserve to the Total Force.

RESERVE TOTAL FORCE CONTRIBUTIONS



Force Structure

Selected Marine Corps Reserve

The organization of the Selected Marine Corps Reserve as a Division/Wing Team capable of providing trained units to the Active Force results in unparalleled flexibility in utilization of Reserve assets. Similarity of Reserve and Active Force structures greatly enhances and streamlines the process of integrating reservists into the Active Force during mobilization.

Significant improvement in the quality of manpower has greatly increased the readiness of the SMCR. Educational levels for FY 85 accessions of 96.8% for non-prior service and 92% for prior service equate to an overall high school graduate rate of 95%. Recruiting efforts to match military skills to billet requirements, coupled with skills training at the unit level, resulted in an improved skill match for FY 85 of 75.9% compared to 71.4% for FY 84. The improvement in this area reflects the success of the initiatives taken during 1984 in a project aimed at ensuring that each drilling reservist was a mobilization asset. We trimmed our Reserve Force by approximately 2,000 from our 1983 level. Many individuals who did not demonstrate satisfactory drill attendance were transferred to the IRR. Additionally, those who did not have the proper grade or specialty were removed from the rolls if they refused retraining.

The SMCR realized a growth of 967 during FY 85 resulting in an end-strength of 41,586. The FY 86 plan calls for an end-strength goal of 43,019; a growth of 1,433 over FY 85.

Our manpower plan calls for a modest growth which will average approximately 1200 per year over the next 5 years. This projected growth calls for an increase which will achieve our goal of being at full Reserve wartime strength by 1990. We plan to continue our active pursuit of imaginative training, increased retention, and proper qualifications to realize our Reserve manpower objective.

Ground Structure

The Marine Corps Total Force planning process has caused structural changes within the 4th Marine Division and Force Service Support Group. The artillery regiment completed reorganization of one Direct Support Battalion to accommodate M198 155mm towed howitzers during FY 85. Reorganization of the remaining artillery units is programmed for FY 88/89 coincident with the procurement of the remaining M198's for the Reserve. Further enhancement of our artillery capability will be realized when the Reserve receives the AN/TPQ-36 counter-fire radar in FY 87. A second Civil Affairs Group was activated in Los Angeles during FY 85. The two Civil Affairs Groups in the 4th Marine Division constitute 100% of the Corps' civil affairs capability. Plans include activation of a third Civil Affairs Group during FY 86/87. Also in FY 86, a Sensor Control and Management Platoon (SCAMP) will be activated in Mobile, Alabama.

During FY 86/87, the Medical Logistics Company of the 4th Supply Battalion, the remainder of the 4th Medical Battalion, and the 4th Dental Battalion will be activated. These activations will be an especially important addition to the 4th Force Service Support Group. A serious deficiency in the SMCR combat service support structure warfighting capability will be eliminated.

A Light Armored Vehicle (LAV) Battalion will be activated in FY 87/88. This battalion, consisting of approximately 960 Marines and 110 vehicles, is anticipated to be located in four or five states. Four Tube-launched, Optically-tracked, Wire-guided (TOW) missile platoons are also scheduled for activation during 1987. One platoon will complete the structure of Anti-tank Company, 4th Tank Battalion, and the remaining three platoons will be placed in each of the three infantry regiments.

Scheduled structure changes for the SMCR:

4th Medical/Dental Battalion	FY 86/87
1 Civil Affairs Group	FY 86
Infantry Battalion Reorganization	FY 86
Air/Naval Gunfire Liaison Company (ANGLICO)	FY 86
Artillery Reorganization	FY 88/89
Sensor Control And Management Platoon (SCAMP)	FY 86
4 Tube-launched, Optically-tracked, Wire-guided missile (TOW) Platoons	FY 87
Light Armored Vehicle (LAV) Battalion	FY 87/88
Target Acquisition Battery	FY 88

Aviation Structure

The 4th Marine Aircraft Wing will also undergo major structural changes as we move into the 1990's. There are three major changes which will enable our Reserve to increase combat capability. They are the expansion to two AH-1J Attack helicopter squadrons, the expansion to two KC-130 Refueler squadrons, and the proposed placement of the Large Land Based Tankers within the 4th Marine Aircraft Wing.

The ongoing standup of the Kfir adversary squadron will enhance and promote the readiness of the Total Force. Thirteen aircraft will be leased from the Israeli government and based at Marine Corps Air Station, Yuma, Arizona, during the summer of 1986. Designated the F-21A, the aircraft will be flown by both active duty Marines and reservists of the 4th Marine Aircraft Wing. The squadron will provide enhanced training by flying dissimilar aircraft using tactics employed by potential adversaries. Training for aircrew members will commence during the summer of 1986 at Naval Air Station, Oceana, Virginia, and in Israel. Maintenance for the aircraft will be on a contracted basis.

In addition to the majority of reservists training in Reserve combat units, drilling reservists are actively training with their active duty counterparts. Individual Mobilization Augmentees (IMA's) are placed on staffs within the supporting establishment and provide assistance to the staffs to which they are assigned. They have become key personnel within their organizations, as evidenced when they assisted in manning the Marine Corps Command Center during the Grenada operation. IMA's also man 52 mobilization stations across the country. Mobilization stations are critical to the process of assimilating members of the IRR, Fleet Marine Corps Reserve (FMCR), and Retirees into the wartime structure during mobilization.

Completing the manpower picture for the SMCR is the Full-Time Support (FTS) program. As a result of the Commandant's direction to stabilize active duty manpower growth in the Marine Corps, this program has impacted significantly on the Marine Corps Reserve. The assistance of FTS Marines in recruiting, instructing, and training, as well as administering the Marine Corps Reserve at 21 major commands, fills personnel staffing requirements which would otherwise have had to be accommodated by active component Marines. Programmed growth from 1134 in 1985 to over 1800 by 1990 will be commensurate with the support required for the anticipated growth of our Reserve Force.

Individual Ready Reserve

The increase of the initial military service obligation to 8 years will have an important effect on the IRR. This population is expected to nearly double from approximately 48,000 in FY 85 to more than 90,000 by 1991. The IRR is the primary source of trained individuals for Active and Reserve units in the event of mobilization. Management and training of this resource are primary concerns of current and future planning efforts. An effective mobilization assignment system and preassignment program is in place and is continually refined during the conduct of regularly scheduled mobilization training exercises. Proper "shaping" of the IRR is being vigorously pursued to ensure reservists' skills match and fulfill anticipated essential Active Force wartime requirements.

MODERNIZATION

Modernization of Reserve aviation continues to be a major concern. Total Force planning for aircraft modernization places aircraft released from the Active Force immediately into the Marine Corps Reserve inventory. However, this does not satisfy long-term requirements. While these aircraft remain capable, our aviation plans address continued modernization. We request congressional support in these efforts.

Aircraft such as the CH-46E, UH-1N, AH-1J, and KC-130F are being flown by both Active and Reserve components. This provides a substantial degree of commonality. The Reserve has converted to an all F-4S fighter force. Plans call for an all A-4M attack force by FY 89. Our goal is to upgrade with the Hornet and have an all F/A-18 Reserve fighter/attack force with transition beginning in 1991. As OV-10D's become available, they will be added to the observation squadron. There will be a mix of A and D models for a period beginning in FY 88. Eventually an all OV-10D inventory in both Active and Reserve squadrons will be obtained.

Modernization of the heavy lift helicopter squadron, currently flying the CH-53A aircraft, calls for transition to the CH-53D in FY 92 and transition to the CH-53E in FY 98. Two CH-46E squadrons will continue to provide medium lift capabilities for the Reserve until FY 98/99, when they will transition to the MV-22A, Osprey.

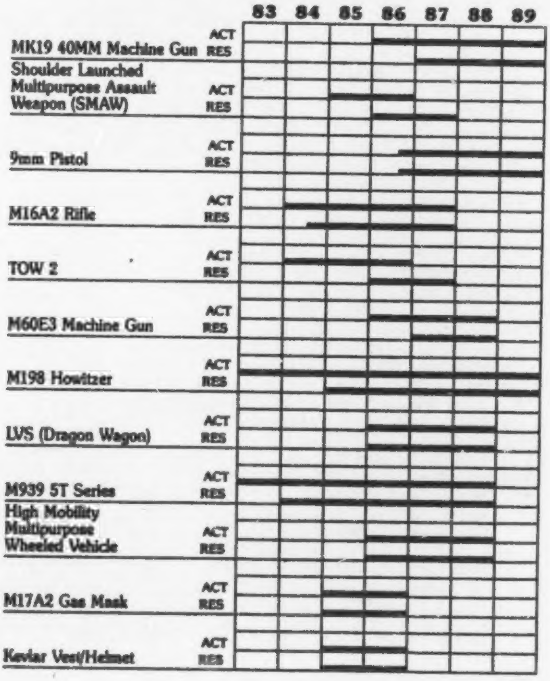
The Reserve currently has one aerial refueler squadron of KC-130's partially configured with the newest KC-130T. Eight aircraft have been delivered and are currently based at Naval Air Station, Glenview, Illinois, along with seven older model KC-130F's. Two aircraft are scheduled for delivery during CY 86, and another two in FY 87. The standup of an additional squadron at Stewart International Airport, New York, is moving ahead in the areas of programmed personnel, aircrew training, and flight-hour funding. However, the inadequacy of scarce MILCON funding may necessitate a revision of the initial schedule calling for standup during the 4th quarter of FY 87. Although incremental measures have been taken to support the aircraft that have already been delivered to the 4th MAW, full standup is contingent on continued congressional support through provision of funding for required military construction of facilities.

Equipment

Modern combat equipment is essential to materiel readiness. As an integral part of the Total Force, all equipment acquisition objectives have for several years addressed Active and Reserve component requirements concurrently. This concept includes initial issue quantities for all U.S. Marine Corps Reserve units and planned sustainability for these Reserve units deploying through D+60.

While the Marine Corps has normally included our Reserve in developing acquisition objectives, equipment fielding to Reserve units has usually lagged behind fielding to the active component. However, during the past 5 years, funding levels have allowed concurrent procurements of most equipment items. Fielding of new equipment concurrently with the active component commenced in earnest in the Marine Corps Reserve in FY 84 with the Commercial Utility Cargo Vehicle (CUCV). Concurrent fielding continues in FY 86 and FY 87 with all new major combat systems being programmed for introduction into our Reserve component. Examples of current fielding plans, depicted below, demonstrate the Marine Corps' commitment to concurrent fielding to both Active and Reserve units:

EQUIPMENT MODERNIZATION



The Marine Corps' goals of procuring, issuing, and maintaining combat standard equipment for our Reserve are being met. Today, over 96% of the equipment required for training is on hand. Remaining equipment required for mobilization will be held at the Marine Corps Logistics Bases. Today the equipment held in our stores system is not adequate to satisfy total Reserve requirements upon mobilization. Current procurement programs will essentially eliminate all but approximately 5% of these shortages by the end of FY 88.

Marine Corps procurement funds in the amount of $172.1 million have been allocated for the Reserve Component in FY 86. The FY 87 request contains a programmed $85.8 million. These funds represent 10.4% and 5.5% of the FY 86 and FY 87 Procurement, Marine Corps (PMC) appropriation. The program represents Marine Corps procurement of our Reserve's total requirement for such items as the Light Armored Vehicle, High Mobility Multipurpose Wheeled Vehicle (HMMWV), 5 Ton Vehicle Fleet, and the M16A2 Rifle.

Distribution of funds allocated to Reserve procurement is displayed below by commodity area: (Shown in $M)

	FY85	FY86	FY87	FY88
Weapons and Tracked Combat Vehicles	111.1	33.6	23.4	5.1
Guided Missiles and Equipment	2.8	-	-	-
Communication/Electronics Equipment	20.0	30.1	13.6	18.2
Support Vehicles	56.5	74.8	17.8	9.7
Engineer Equipment	14.1	27.3	29.7	41.8
Spares and Repair Parts	8.1	6.3	1.3	1.9
TOTAL	212.6	172.1	85.8	76.7

The Marine Corps Reserve presently occupies 186 Reserve Centers located in 46 states, the District of Columbia, and Puerto Rico. Forty-seven Reserve Centers are managed or owned by the Marine Corps. The remainder are occupied jointly with other services.

Replacement, renovation, or expansion of Navy and Marine Reserve facilities are funded by the Military Construction Naval Reserve (MCNR) appropriation. Funding levels for the previous 5 years have averaged $38 million. During this period the construction backlog has increased from $290 million in FY 82 to $732 million in FY 87. Inadequate funding levels, block obsolescence of World War II era facilities, and new Reserve missions are factors which led to this significant increase.

The current FY 87 through FY 91 MCNR program contains more than $350 million for construction of Navy and Marine Corps Reserve facilities. Replacement or expansion of 64 Reserve Centers will be realized if this program is supported.

Current/programmed MCNR funding levels:

FY	($M)
87	44.5
88	63.3
89	72.7
90	80.5
91	91.2
TOTAL	352.2

TRAINING AND READINESS

The melding of manpower and equipment through an effective and imaginative training program is essential to a combat ready force. Exercises and other training, involving Active/Reserve integration, are targeted to provide a highly trained Reserve manpower pool from which to draw units/individual Marines in the event of mobilization. Programs aimed at professional development and assignment of military occupational specialties are also an integral part of the equation.

Integrated training with our active component is considered an imperative to successful warfighting. Underscoring our emphasis on Active/Reserve integration and unit performance within a Marine Air-Ground Task Force (MAGTF), the Reserve 2d Marine Amphibious Brigade (MAB) will, for the first time, participate in an exercise under the operational control of the Commanding General, Fleet Marine Force, Atlantic/Commanding General, II Marine Amphibious Force during 1987.

Training for Individuals

Training of individuals in the IRR is accomplished primarily through two programs. First, the Exercise Support Program provides small detachments and individuals the opportunity to participate in major exercises under the cognizance of Fleet Marine Force, Atlantic and Fleet Marine Force, Pacific. Highlights of this program during 1986 are: 15 reservists joined the 9th MAB staff and participated in exercise YAMA SAKURA conducted in Hokkaido, Japan, in conjunction with training for the Japanese Self-Defense Force; 120 reservists from the IRR participated in exercise TEAM SPIRIT by deploying to Korea as part of III MAF.

Second, the Reserve Counterpart Training Program (RCT) is designed to provide IRR officers and enlisted Marines opportunities to train with their active duty counterparts. Our exercise support program is complemented by our focus on MOS training through performance of routine duties. Priority is given to training enlisted IRR Marines before officers because of the importance of technical skill enhancement and proficiency.

The anticipated doubling of the size of the IRR by the end of FY 91 to more than 90,000 as an effect of the 8-year obligation presents a significant challenge to ensure MOS proficiency through conduct of refresher training. The RCT program will become a primary means of accomplishing this training. Identification of MOS's required by the Active Forces upon mobilization, skill degradation profiles, and imaginative training programs must all be addressed as we carefully formulate plans to accomplish IRR refresher training.

Military occupational specialties (MOS) shortfalls have been identified. Skill degradation over time within these specialties is being measured. To counter this skill degradation, funding has been earmarked to conduct this essential skill refresher training commencing in FY 88. A major challenge will be the continued development of this group of reservists as a viable manpower resource through refresher training, enhanced administration capabilities, and improved mobilization techniques.

One other facet in our training program for individuals is attendance at professional schools. These opportunities provide career, intermediate, and top level schooling for Reserve officers similar to that offered for regular officers. Reservists attend the Reserve courses at the Marine Corps Amphibious Warfare School and the Marine Corps Command and Staff College, as well as schools at the Naval War College. Candidates from the grade of warrant officer to colonel are designated by selection board to ensure that the most qualified individuals attend. The program has expanded from 902 officers in FY 85 (54% SMCR, 34% IRR, 4% FTS), to 1,005 in FY 86 (59% SMCR, 34% IRR, 7% FTS). Present levels of professional education will be maintained in FY 87.

Training and Readiness of Units

Exercise participation affords reservists the same opportunities as their active duty counterparts to hone skills in command and control, fire support coordination, amphibious planning, and fire and maneuver. An active cycle of training is maintained which includes combined arms exercises, cold weather training, and amphibious landings. As previously mentioned, unit participation in 18 major exercises abroad and within CONUS provided training to approximately 20,000 reservists during 1985. The major exercises of 1985 and the projected exercises for 1986 are depicted in the next two charts:

FY 85

EXERCISE	DATES	LOCATION	MAJOR UNITS	# PERSONNEL
Joint/Combined				
ALPINE WARRIOR/ COLD WINTER	Feb	New York Norway	HQ ELEM 4thMARDIV HML-771, HMM-774 HMH-772	150
BRIM FROST 85	Jun	Alaska	I Co 4th FAAD	300
BEAR HUNT	Oct	Korea	Det FSSG	150
NEZ ROUGE	Jan	Canada	Det A, MAG-49	40
Joint				
SOLID SHIELD 85	May	East Coast	HQ ELEM 4thMARDIV MAG-49 Det C, MAG-42 ELEM 4th MAW	600
BORDER STAR	May	New Mexico	MACS-23	300
RESERVE AMPHIBIOUS EXERCISE	Jun	West Coast	2/24, MAG-42 (-)	2100
RESERVE AMPHIBIOUS EXERCISE	Jul	East Coast	1/25, MAG-49 (-)	2100
BLAZING SKIES	Nov	New Mexico	MACS-23	200
POWDER RIVER	Nov	CONUS	HQ ELEM	300
SMCR				
COLD WEATHER TRAINING	Apr	California	3/25	800
MECHANIZED EXERCISE	Apr	Virginia	8th TankBn	800
MCCRES *	Jun-Jul	Minnesota	1/23, 3/23 MAG-42 (-)	2400
COMBINED ARMS EXERCISE 7-85	Jul	California	2/24, MAG-46 (-)	2500
MOUNTAIN WARFARE TRAINING	Jul	California	3/24	800
JUNGLE TRNG	Jul	Panama	2/25	700
COMBINED ARMS EXERCISE 8-85	Jul-Aug	California	1/24, MAG-46 (-)	2400
MCCRES *	Aug	Wisconsin	3/14,4/14	800

* MCCRES - Marine Corps Combat Readiness Evaluation System

OUT OF CONUS - Alaska (BRIM FROST 85), Korea (BEAR HUNT and TEAM SPIRIT), Thailand (COBRA GOLD), Med/Turkey (DISPLAY DETERMINATION), Panama (Jungle Training), England (WINTEX CIMEX), Canada (NEZ ROUGE), Guam (MPS Loading; Det, 4th Landing Support Bn)

FY 86

EXERCISE	DATES	LOCATION	MAJOR UNIT	# PERSONNEL
Joint/Combined				
TEAM SPIRIT	Feb	*	Individuals	140
ANCHOR EXPRESS	Feb-Mar	*	HMA-773	100
MAPLE FLAG	May	*	VMAQ-4	20
NORTHERN WEDDING/ BOLD GUARD	Sep	*	3/25 4th MAW ELEMENTS	1950
Joint				
BOLD EAGLE	Oct-Nov	CONUS	VMA-124, MACS-24	
PORT CALL 86	Nov	CONUS	BridgeCo, HQ ELEM	80
ALPINE WARRIOR	Feb	Wisconsin	A Co 4th CBEngrBn	320
AMPHIBIOUS EXERCISE	Jul	East Coast	2/25, MAG-41	2820
SMCR				
COMBINED ARMS EXERCISE 7-86	May-Jun	California	3/24, MAG-49 (-)	3700
MOUNTAIN WARFARE TRAINING	May-Jun	California	2/23	1200
COMBINED ARMS EXERCISE 8-86	Jun-Jul	California	1/25, MAG-49(-)	2870
MECHANIZED EXERCISE	Jul	California	4thTankBn 4thAsslt AmphBn	1000
FIRE EXERCISE	Jul	Colorado	14th Mar	1700
MCCRES **	Aug	Minnesota	2/24	2800
COLD WEATHER TRAINING	FY	California	ELEM 4th MARDIV	1200

* OUT OF CONUS

** MCCRES - Marine Corps Combat Readiness Evaluation System

One feature of the annual exercise schedule is Reserve unit participation in the Marine Corps Combat Readiness Evaluation System (MCCRES). Reserve units are routinely assessed with the same criteria used to evaluate Active Force training effectiveness. Results are used primarily by unit commanders to correct unit training deficiencies. A comparison of results from 1980 through 1985 provides insight into the effectiveness of the training program.

MCCRES RESULTS

FY	UNITS EVALUATED	% REPORTING COMBAT READY
80	13	69
81	13	54
82	29	90
83	31	90
84	13	100
85	49	100

A crucial measurement of readiness for the Reserve, in addition to tactical proficiency, is being physically able to mobilize. This readiness factor is routinely assessed and exercised from an overall perspective during the conduct of JCS mobilization exercises. During Exercise PORT CALL 86, the Marine Corps moved a bridge company from its home training center in Battle Creek, Michigan, to the Station of Initial Assignment (SIA) located at Camp Lejeune, North Carolina. The company married up with selected items of equipment which had been drawn from the

Prepositioned War Reserves (PWR) and shipped to the SIA. We also moved an infantry battalion from five home training centers located in Michigan and Ohio to the same SIA.

Complementing this system at the unit level, the 4th Marine Division and 4th Marine Aircraft Wing conduct Mobilization Operational Readiness Deployment Tests (MORDT's). MORDT's provide unit commanders an assessment of readiness to deploy upon mobilization.

MORDT RESULTS

FY	UNITS TESTED	% COMBAT READY
80	133	96
81	95	96
82	131	95
83	113	93
84	95	94
85	92	91

BUDGET

The FY 87 Reserve budget request of $380.1 million will support both enhancement initiatives discussed above and a SMCR end-strength of 44,400 (42,800 average strength). This funding represents 4.1% of the overall Marine Corps budget, and a real growth of 8.4%. Listed below is a comparison of FY 86 and FY 87 budgets.

FUNDING COMPARISON - FY 86/87

RESERVE APPROPRIATION	FY 86	FY 87
Reserve Personnel, Marine Corps (RPMC)	$287.3M	$314.8M
Operation & Maintenance, Marine Corps Reserve (O&MMCR)	$ 58.2M	$ 65.3M
Total	$345.5M	$380.1M
Reserve Share of Total Marine Corps	3.9%	4.1%

The FY 87 RPMC Budget provides $208.8 million for pay and allowances, retired pay accrual, subsistence, clothing, and operational travel for units and individuals during drills, annual training, and initial active duty for training (IADT). The other $106.0 million is for special tour requirements, mobilization training, the Full Time Support (FTS) Program, Incentives Program, Platoon Leaders Course, and the Junior Reserve Officers Training Corps. The RPMC increase of $27.5 million over FY 86 is necessitated by a planned end strength increase of 1,381 within the SMCR and FTS programs. The purpose of this increase is to support the structure enhancements previously discussed and a DOD directed one-day involuntary recall of the Individual Ready Reserve for annual screening.

The FY 87 O&MMCR request of $65.3 million provides funds for the day-to-day costs of supporting our units. The training of SMCR units is directly supported by $28.7 million. Included are the costs of "expense items" of equipment, consumables, vehicle and airlift support, transportation of Marines and materiel, and unit maintenance of equipment. Depot level maintenance of major end items of equipment is supported with $2.0 million. The FY 87 request also provides $17.2 million for the operation and maintenance of training facilities and adminisrative support of the SMCR. The remaining $17.4 million pays for administrative support of individual reservists, recruiting activities, and headquarters support.

Funding levels described for FY 87 are vital in our continued development. The modest increase in funds for enhanced manpower, training, equipment, and facilities will make a substantial contribution to our warfighting capability.

CONCLUSION

The Marine Corps Reserve has made great strides in improving its posture during the past decade. Continued attention to several areas is required in order to keep momentum moving toward our objective of a well-trained, responsive, and combat capable Reserve Force.

Emphasis on recruiting and retaining quality Marines must be continued. Provision of strong, adept leadership and creative, mission-oriented training is a challenge which must be continually met. Modern facilities and adequate compensation are also extremely important in motivating our young Marines to remain active in the Reserve. The husbanding of this manpower resource to maintain the desired strength levels is a key element in meeting the commitments of the U.S. Marine Corps Reserve.

Providing our Marines with state-of-the-art equipment is the goal of our force modernization effort. This may be the most important single factor in establishing the Reserve as a credible combat force.

Continued Active/Reserve integration is also critical to enhancing Reserve capabilities. Implicit in mobilization is the integration of the Reserve, as individuals or units, into the Active Force. Their degree of success in accomplishing this integration and contributing to combat effectiveness will ultimately be borne out on the battlefield. Appropriately, Active/Reserve integration is the dominant theme in reserve planning. Emphasis is consistent from the highest level staffing to unit training in the field. More reservists are involved in Active Force training than ever before. Major program sponsors in the Marine Corps wear a reserve hat as well as an active one. Active/Reserve integration does take place at every level in the Marine Corps.

In keeping with the Total Force policy, the Marine Corps Reserve complements the Active Force as a fully integrated partner. Our Marine Reservists are dedicated, professional young men and women with a patriotic commitment to our Nation's defense. They are an indispensable asset to the Corps in meeting its role as our Nation's Force-in-Readiness.

ARMY RESERVE

STATEMENT OF MAJ. GEN. WILLIAM BERKMAN

Senator STEVENS. Thank you.

General Berkman.

General BERKMAN. I am pleased to be here today representing approximately 600,000 citizen soldiers, men and women, who are contributing to our national security as members of the Army Reserve.

Today's Army Reserve is the best Army Reserve our Nation has ever had, more ready, better trained, better equipped, led, and managed than ever before.

At the end of fiscal year 1985 there were nearly 270,000 members of the Army Reserve assigned to troop program units. Incidentally, that number will go to 285,000 by the end of fiscal year 1986.

In addition, there are over 300,000 individual members of the Individual Ready Reserve. Incidentally, that figure on troop program units strength is almost 100,000 more members over the number in the troop program units at the end of 1979.

The steady improvement in the area of personnel, training, equipment mobilization, capability has made the Army Reserve the finest in its history. We have not yet achieved all our objectives, but steady improvements have been due in large measure to the longstanding interest of Congress and this committee.

With your continued support and cooperation, the men and women of the Army Reserve will be ready to meet the requirements of today and the challenges of tomorrow.

In the interest of time, Mr. Chairman, I submit the remainder of my reading version for the record.

I am ready to answer questions.

[The statement of General Berkman follows:]

PREPARED STATEMENT OF MAJ. GEN. WILLIAM R. BERKMAN
CHIEF, ARMY RESERVE

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

I HAVE A STATEMENT I WOULD LIKE TO SUBMIT FOR THE RECORD, AND WITH YOUR PERMISSION, I WOULD LIKE TO MAKE A FEW ADDITIONAL COMMENTS.

I AM PLEASED TO BE HERE TODAY ON BEHALF OF APPROXIMATELY 600 THOUSAND CITIZEN-SOLDIERS, MEN AND WOMEN WHO ARE CONTRIBUTING TO OUR NATIONAL SECURITY AS MEMBERS OF THE ARMY RESERVE.

TODAY'S ARMY RESERVE IS THE BEST ARMY RESERVE OUR NATION HAS EVER HAD. IT IS MORE READY AND BETTER TRAINED THAN IT HAS EVER BEEN. IT IS BETTER EQUIPPED, BETTER LED AND BETTER MANAGED THAN EVER BEFORE.

SELECTED RESERVE

AT THE END OF FY 85 THERE WERE NEARLY 270 THOUSAND MEMBERS OF THE ARMY RESERVE ASSIGNED TO TROOP PROGRAM UNITS. THAT NUMBER WILL GO TO 285 THOUSAND BY THE END OF FY 86. (INCIDENTALLY, THAT IS ALMOST 100 THOUSAND MORE THAN THE NUMBER IN TROOP PROGRAM UNITS AT THE END OF 1979.) ADDING THE MORE THAN 13 THOUSAND INDIVIDUAL MOBILIZATION AUGMENTEES AND 12 THOUSAND RESERVISTS IN THE ACTIVE GUARD/RESERVE PROGRAM (AGR), THE TOTAL SELECTED RESERVE WILL APPROACH 311 THOUSAND BY THE END OF FY 86.

THE PRESIDENT'S BUDGET REQUEST WILL PROVIDE AN INCREASE IN FY 87 OF 14 THOUSAND PAID DRILL STRENGTH, 15 HUNDRED FULL TIME RESERVISTS IN THE AGR PROGRAM, AND 1,400 INDIVIDUAL MOBILIZATION AUGMENTEES ASSIGNED TO ACTIVE COMPONENT ORGANIZATIONS. THIS WILL CONTINUE TO CLOSE THE GAP BETWEEN WARTIME REQUIREMENTS AND PEACE TIME TROOP PROGRAM UNIT STRENGTH TO ABOUT 13 THOUSAND.

THE ARMY RESERVE IS BEING SUCCESSFUL ATTRACTING HIGH QUALITY YOUNG MEN AND WOMEN INTO ITS TROOP PROGRAM UNITS. IN FY 85, 88.9 PERCENT OF THE NONPRIOR SERVICE ENLISTEES WERE HIGH SCHOOL GRADUATES. (FOUR YEARS AGO, THE FIGURE WAS 48.1 PERCENT.) US ARMY FORCES COMMAND, WHICH COMMANDS THE ARMY RESERVE TROOP PROGRAM UNITS, HAS BEEN EMPHASIZING RETENTION THROUGHOUT THE CHAIN OF COMMAND. AS A RESULT, THE ATTRITION RATE HAS BEEN DECLINING. THE HIGHER QUALITY OF OUR ENLISTEES CONTRIBUTES TO IMPROVED RETENTION. HIGH SCHOOL GRADUATES' RETENTION RATES ARE 50 PERCENT HIGHER THAN THOSE OF NON-HIGH SCHOOL GRADUATES.

TO ATTRACT HIGH QUALITY YOUNG MEN AND WOMEN TO THE ARMY RESERVE WE NEED TO OFFER A VARIETY OF INCENTIVES. THE MOST SIGNIFICANT ARE THOSE IN THE SELECTED RESERVE INCENTIVE BONUS PROGRAM AND AN EDUCATIONAL ASSISTANCE INCENTIVE. THE BONUS PROGRAM PAYS A VARIABLE BONUS TO PERSONS ENLISTING IN THE ARMY RESERVE IN CERTAIN CRITICAL SKILLS OR HIGH PRIORITY UNITS. EXPERIENCE HAS ALSO DEMONSTRATED THAT THOSE WHO ENLIST FOR THE BONUS REMAIN IN THE ARMY RESERVE LONGER THAN THOSE WHO DO NOT. IF WE ARE TO MEET OUR SELECTED RESERVE ENLISTMENT GOALS FOR FY 86 OF ABOUT 77 THOUSAND AND FOR FY 87 OF 78 THOUSAND, THE CONTINUATION AND EXPANSION OF THE SELECTED RESERVE INCENTIVE PROGRAM IS ESSENTIAL.

WHAT MUST BE EMPHASIZED IS THAT THESE PROGRAMS SHOULD NOT BE VIEWED AS MUTUALLY EXCLUSIVE. NEITHER IS A SUBSTITUTE FOR THE OTHER. THEY ARE AIMED AT DIFFERENT GROUPS OF PEOPLE AND HAVE DIFFERENT OBJECTIVES. THEY ARE BOTH NEEDED.

DEMOGRAPHIC PROJECTIONS INDICATE A DECLINE IN THE NUMBER OF YOUNG PEOPLE AVAILABLE FOR MILITARY SERVICE. THIS MEANS WE MUST INCREASE OUR EFFORTS TO REACH POTENTIAL ENLISTEES AND INFORM THEM OF THE OPPORTUNITIES AND BENEFITS ASSOCIATED WITH SERVICE IN THE ARMY RESERVE. IN 1986, WE ARE ADDING NEARLY 60 MORE FULL TIME

PERSONNEL TO OUR RECRUITING FORCE. WE WILL ALSO CAREFULLY STUDY AND ADJUST OUR NATIONAL ADVERTISING CAMPAIGN TO ENSURE THAT IT REMAINS AS EFFECTIVE AS POSSIBLE.

OVERSEAS TRAINING

THE OPERATIONAL TEMPO OF ARMY RESERVE OVERSEAS TRAINING HAS INCREASED SIGNIFICANTLY IN THE PAST SEVERAL YEARS. OVERSEAS DEPLOYMENT TRAINING GREW FROM 12 UNITS/CELLS IN FY 1976 TO MORE THAN 11 HUNDRED IN FY 1985. IN FY 1986, WE EXPECT TO TRAIN NEARLY 20,000 ARMY RESERVISTS IN THE OVERSEAS DEPLOYMENT PROGRAM. WE WILL TRAIN NEARLY 5,000 ARMY RESERVISTS IN EXERCISE BLAZING TRAILS IN PANAMA AND HONDURAS THIS YEAR; NEARLY 1,300 IN EXERCISE TEAM SPIRIT IN KOREA; APPROXIMATELY 1,900 IN REFORGER IN GERMANY. THE SENSE OF MAKING A CONTRIBUTION TO THE NATIONAL SECURITY IS GREATLY STRENGTHENED WHEN RESERVE SOLDIERS ACTUALLY TRAIN WHERE THEY MAY HAVE TO FIGHT. THE RELEVANCE OF THIS TRAINING EXPERIENCE IS FREQUENTLY CITED BY EXPERIENCED RESERVISTS AS A PRIMARY FACTOR IN THEIR DECISION TO STAY WITH THE PROGRAM. THE PERSONNEL SAVINGS AND AVOIDED TRAINING REPLACEMENT COSTS REPRESENTED BY THIS INCREASE IN RETENTION CLEARLY MARK THIS KIND OF TRAINING AS A PRUDENT INVESTMENT IN THE TOTAL ARMY'S FUTURE.

INDIVIDUAL READY RESERVE

THE INDIVIDUAL READY RESERVE (IRR), THE ARMY'S PRIMARY SOURCE OF PRETRAINED MILITARY PERSONNEL HAS GROWN FROM 213 THOUSAND IN 1981 TO AN FY 85 END STRENGTH OF 302 THOUSAND. BY THE END OF FY 91, THE IRR WILL NUMBER MORE THAN 461 THOUSAND. IRR PERSONNEL ARE REQUIRED UPON MOBILIZATION TO BRING ACTIVE AND RESERVE COMPONENT UNITS UP TO WARTIME STRENGTHS, TO SERVE AS REPLACEMENTS UNTIL INDUCTEES CAN BE TRAINED, AND AS CADRE FOR UNITS FORMED AFTER MOBILIZATION. THE ENLISTED MEMBERS OF THE IRR CONSIST PRINCIPALLY OF PERSONNEL WITH A MILITARY SERVICE OBLIGATION WHO HAVE SERVED IN THE ACTIVE COMPONENT, THE ARMY RESERVE, AND THE ARMY NATIONAL GUARD. THE IRR IS MANAGED BY THE

ARMY RESERVE PERSONNEL CENTER (ARPERCEN), A FIELD OPERATING AGENCY OF THE CHIEF, ARMY RESERVE. IRR MEMBERS TRAIN BY TAKING CORRESPONDENCE COURSES, ATTENDING ARMY RESERVE SCHOOLS, AND SERVING ON TOURS OF ACTIVE DUTY FOR TRAINING AT SERVICE SCHOOLS OR WITH ACTIVE ARMY UNITS. THEIR TRAINING IS LIMITED BY THEIR OWN AVAILABILITY AND THE AVAILABILITY OF TRAINING FUNDS. A COMPREHENSIVE TRAINING PROGRAM FOR ENLISTED IRR PERSONNEL IS BEING DEVELOPED AND THE ENTIRE IRR IS RECEIVING RENEWED EMPHASIS BY THE ARMY.

LAST YEAR'S DEFENSE AUTHORIZATION ACT DIRECTED THE SECRETARY OF DEFENSE TO "CONDUCT A TEST OF THE ABILITY OF THE ARMY TO MUSTER MEMBERS OF THE INDIVIDUAL READY RESERVE OF THE ARMY IN TIME OF WAR OR NATIONAL EMERGENCY." THE TEST MUSTER WAS TO BE NATIONAL IN SCALE AND TO DETERMINE THE AVAILABILITY AND FITNESS FOR DUTY OF THE IRR AS WELL AS THE ADEQUACY OF CURRENT CALL-UP PROCEDURES. NEARLY 7,000 IRR MEMBERS WERE MUSTERED IN 13 CITIES IN JANUARY 1986. SPECIFIC ACTIVITIES OF THE MUSTER OPERATION INCLUDED UPDATING OF PERSONNEL INFORMATION; ISSUING OF RESERVE ID CARDS; BRIEFING PERSONNEL ON ARMY RESERVE BENEFITS AND PROGRAMS; CONDUCTING ENLISTMENTS INTO THE SELECTED RESERVE; CONDUCTING COMMON SKILL AND SELECTED SPECIALTY TESTING; FINGERPRINTING; AND MEDICAL SCREENING; AND ISSUING BATTLE DRESS UNIFORMS TO THOSE WHO ENLISTED OR REENLISTED IN THE ARMY RESERVE. THESE ACTIVITIES WERE DESIGNED TO UPDATE THE MOBILIZATION DATA BASE TO REVIEW CALL-UP PROCEDURES, INCREASE SELECTED RESERVE STRENGTH, AND INCREASE IRR PARTICIPATION IN TRAINING. AN INITIAL REPORT ON THE FY 1986 IRR MUSTER WAS SUBMITTED TO THE CONGRESS ON 1 FEBRUARY 1986. A MORE DETAILED REPORT WAS SUBMITTED LAST WEEK.

THE OFFICE OF THE SECRETARY OF DEFENSE HAS DIRECTED A MANDATORY SCREENING OF THE IRR OF ALL SERVICES IN FY 87. THE PURPOSE OF THE FY 87 IRR SCREEN IS TO DETERMINE MOBILIZATION AVAILABILITY OF THE IRR. THE ARMY WILL REVIEW IRR MEMBERS' PHYSICAL CONDITION, DEPENDENCY STATUS, MILITARY QUALIFICATIONS, CIVILIAN OCCUPATIONAL SKILLS, AND AVAILABILITY FOR SERVICE. THE SCREEN WILL BE AN IMPORTANT ELEMENT IN MANAGING VALUABLE HUMAN ASSETS.

AGR

THE FY 87 BUDGET REQUEST INCREASES RESERVISTS ON ACTIVE DUTY IN THE AGR PROGRAM BY 1,500 PERSONNEL TO ALMOST 14 THOUSAND. ARMY RESERVE AGR PERSONNEL ARE ON DUTY TO ASSIST DRILLING RESERVISTS MEET THEIR READINESS GOALS BY CARRYING OUT REQUIRED DAY TO DAY OPERATIONS, THUS ENABLING UNIT MEMBERS TO CONCENTRATE THEIR LIMITED AVAILABLE TIME ON TRAINING. SOME AGR PERSONNEL SERVE IN ASSIGNMENTS ABOVE THE UNIT LEVEL. HOWEVER, THE GREAT MAJORITY OF THE GROWTH SERVE IN ARMY RESERVE UNITS WITH WHICH THEY WOULD MOBILIZE AND DEPLOY. THEY ASSIST IN TRAINING, ADMINISTRATION AND LOGISTICS. THEIR CONTRIBUTIONS ARE VITAL TO READINESS IMPROVEMENTS.

HISTORICALLY THE ARMY RESERVE HAS HAD THE LOWEST PERCENTAGE OF FULL TIME SUPPORT PERSONNEL OF THE RESERVE COMPONENT OF ANY SERVICE. IN FY 82 THE FULL TIME SUPPORT PERSONNEL (AGR, MILITARY TECHNICIANS) REPRESENTED ONLY 4.4 PERCENT. THE FY 87 BUDGET REQUEST WILL SUPPORT FULL TIME SUPPORT AT APPROXIMATELY 6.0 PERCENT.

EQUIPMENT

SINCE FY 1981 THE ARMY RESERVE HAS RECEIVED OVER $705 MILLION IN DEDICATED PROCUREMENT FUNDING. THE CONGRESS APPROPRIATED $365 MILLION FOR FY 1986 - THIS FUNDING MUST YET BE AUTHORIZED BEFORE IT CAN BE UTILIZED TO IMPROVE THE READINESS POSTURE OF ARMY RESERVE UNITS. SINCE FY 1981 THE ARMY RESERVE HAS RECEIVED EQUIPMENT VALUED AT $931 MILLION FROM THE ARMY PROCUREMENT SYSTEM. THIS NEW EQUIPMENT HAS SIGNIFICANTLY IMPROVED ARMY RESERVE UNITS' READINESS POSTURE ALTHOUGH SUCH IMPROVEMENTS MAY NOT REGISTER IN THE UNIT READINESS RATING SYSTEM. CONTINUED

SUPPORT OF ARMY RESERVE EQUIPMENT REQUIREMENTS WILL PAY DIVIDENDS IN THE FUTURE.

OPERATION AND MAINTENANCE, ARMY RESERVE

THE OPERATION AND MAINTENANCE, ARMY RESERVE BUDGET REQUEST FOR FY 1987 OF $793 MILLION WILL FUND INCREASED FULL TIME RECRUITER SUPPORT AS WELL AS ADVERTISING AND MARKET ANALYSIS. IT WILL INCREASE FORCE MODERNIZATION AND FORCE STRUCTURE FOR ACTIVATIONS AND REORGANIZATIONS, AND IT WILL PROVIDE REPAIR PARTS, TRAINING, AND FACILITY MODIFICATIONS TO STREAMLINE THE INTEGRATION OF NEW WEAPON SYSTEMS IN THE ARMY RESERVE. THE REQUEST WILL PROVIDE AN ADDITIONAL 409 ARMY RESERVE TECHNICIANS TO SUPPORT ARMY RESERVE UNITS AND WILL ALSO FUND INCREASED TRAINING AND EDUCATION AND DEVELOPMENT OF FULL TIME RESERVISTS WHO SUPPORT ARMY RESERVE UNITS.

THESE ARE TIMES OF PROGRESS AND CHALLENGE FOR THE ARMY RESERVE. WE ARE MINDFUL OF OUR STEWARDSHIP OBLIGATIONS OVER THE RESOURCES PROVIDED TO IMPROVE THE FORCE AS AN ESSENTIAL ELEMENT OF THE TOTAL ARMY. IN OUR EFFORTS FOR IMPROVEMENT, THE ARMY'S THEMES OF SPIRIT, FITNESS, EXCELLENCE, FAMILY AND LEADERSHIP HAVE HAD EQUAL RELEVANCE TO THE RESERVE COMPONENTS. THE 1986 THEME OF "VALUES" IS ESPECIALLY RELEVANT TO OUR CITIZEN-SOLDIERS. THEY ARE, IN CHURCHILL'S WORDS "TWICE THE CITIZENS" WHO, IN ADDITION TO CIVILIAN PURSUITS REAFFIRM, BY ARMY RESERVE MEMBERSHIP AND PARTICIPATION, THEIR COMMITMENT TO THE VALUES WE ARE SWORN TO DEFEND AS WELL AS THE PROFESSIONAL VALUES THAT ARE IMPORTANT TO OUR TOTAL ARMY AND NATION.

STEADY IMPROVEMENTS IN THE AREAS OF PERSONNEL, TRAINING, EQUIPMENT, AND MOBILIZATION CAPABILITY HAVE MADE TODAY'S ARMY RESERVE THE FINEST IN HISTORY. THESE IMPROVEMENTS HAVE BEEN DUE IN LARGE MEASURE TO THE LONG-STANDING INTEREST AND SUPPORT OF THE CONGRESS. WITH THAT CONTINUED SUPPORT AND COOPERATION, THE MEN AND WOMEN OF THE ARMY RESERVE WILL REMAIN READY TO MEET THE REQUIREMENTS OF TODAY AND THE CHALLENGES OF TOMORROW.

AIR FORCE RESERVE

STATEMENT OF MAJ. GEN. SLOAN GILL

Senator STEVENS. General Gill.

General GILL. Thank you, Mr. Chairman and members of the committee.

I would also like to take this opportunity to thank this committee for your previous support of the Air Force Reserve.

The Air Force Reserve had an excellent year. For the eighth year in a row, we reached our recruiting goals. We went through our end strength goal of 74,829 and achieved 75,214 last year. In fiscal year 1987 we are looking at an end strength of 78,300. The quality of our people is better and better.

We are continuing the modernization and some of the things that this committee helped us do was to get our F–4 modifications which will increase the capabilty of the F–4, the Reserve miscellaneous equipment, and also the C–130H's that were appropriated by this committee.

What I would like to say also is that we have had a terrific year as far as our increased capability. We proved that by winning three of the major competitions that we participated in and one of those was the military airlift competition which we won with brand new C–130H's. It has been a very excellent year.

We are also participating in some exercises, additional exercises, over in Europe. We did a port swap operation over there with A–10's. We have A–10's in Europe, which provides good training for us.

We do ask for some help with disconnects between authorizations and appropriations. Some of those are the $92 million in "Aircraft procurement, Air Force," and $2.4 million in "Operation and maintenance, Air Force Reserve" for the HUD and INS on F–4's, a disconnect of $30 million on equipment, and also $30 million for the C–130H.

Again, I would like to thank you for your support. It has been another good year for the Air Force Reserve.

[The statement of General Gill follows:]

PREPARED STATEMENT OF MAJ. GEN. SLOAN R. GILL

CHIEF, AIR FORCE RESERVE

Mr. Chairman and Members of the Committee:

Thank you for the opportunity to appear before this committee to present the Air Force Reserve program for FY 1987.

I am pleased to report that the Air Force Reserve attained an end strength of 75,214 in FY 1985, exceeding our programmed end strength of 74,829. All our units are well-manned, well-trained, and capable of mobilizing in 24 hours and deploying within 72 hours. The keys to this effectiveness are modern equipment, meaningful missions, dedicated personnel and strong support of the active force.

All of our equipped flying units, not in conversion status, are combat ready. This includes our six associate strategic airlift wings and our Strategic Air Command (SAC) Associate KC-10 units. Earlier this year, SAC began operation of the their third KC-10 Main Operating Base at Seymour-Johnson AFB, North Carolina. As with the existing KC-10 units, the Air Force Reserve Associate program will provide one-half of the total aircrew force for the KC-10 at Seymour-Johnson. Each of our three KC-135 tanker squadrons remains in combat ready status with Reserve crews standing daily alert.

This year we continue the conversion of the strategic airlift unit at Kelly AFB, Texas by adding six C-5A aircraft. By the second quarter of FY 1989, we will build the unit up to it's full complement of 15 primary authorized aircraft (PAA). Placing C-5s in the Air Force Reserve reduces their peacetime flying cost and extends their service life because we fly them at a lower activity level.

This summer we will establish our first C-141 equipped strategic airlift unit by converting our C-130E unit at Andrews AFB, Maryland to C-141s. In FY 1987, we will gain six additional C-141Bs to reach a total of eight aircraft. The C-141 has long been the backbone of the strategic airlift fleet and we are proud to expand our mission to the equipped role. We will provide 100% of the aircrews and maintenance personnel for our equipped strategic airlift units while continuing to supply 50% of the aircrews and 40% of the maintenance personnel for the C-141s and C-5s in the associate fleet.

On the tactical airlift side, the FY 1985 and FY 1986 funding added by Congress for procurement of eight C-130Hs in each year will allow us to retire sixteen of our older C-130A models. The remaining 28 C-130A aircraft that we operate average over 28 years of age. These vintage aircraft are programmed to remain in the inventory until the mid 1990s when C-17 procurement will allow the transfer of more C-141s, along with direct-delivery of some C-17s to the Air Force Reserve. This plan is obviously contingent upon timely procurement of the C-17. If the C-17 program is delayed, it will be very expensive, if not impossible, to maintain these 1950s technology C-130s. To preclude this, I urge Congress to fully support the C-17 program.

We will build our fighter force from 216 to 228 aircraft in FY 1987. We will activate a new F-16 unit at Luke AFB, Arizona during the fourth quarter of FY 1987. As you know, the unit will be equipped with 24 F-16C/D models directly from the production line. While the new F-16s and A-10s help keep the average age of our fighter/attack force down, the aging F-4D remains the mainstay. As a direct result of past Congressional interest, we are able to increase the combat capability of these forces with the installation of low smoke engines, an off-boresight AIM-9 missile capability, an Inertial Navigation System, and a new bombing accuracy improvement. However, as with the C-130 fleet, new aircraft procurement rates are essential to our continued modernization. Any cutbacks in F-15 and F-16 procurement levels dictate that F-4D aircraft remain in the inventory beyond the early 1990s. Our concern is that a gradual extension of force life does not allow proper leadtime for required modifications to the F-4 and early model F-16 forces to keep them viable against the threat of the late 1980s and early 1990s. Thus, I also urge Congress to support the goals and concepts of the Tactical Fighter Roadmap.

Many of our combat support and mission support activities, as part of their training activities, make significant peacetime contributions which assist in keeping the peacetime costs of the Total Force to a minimum. The Air Force Reserve provides 64 percent of the aeromedical evacuation units and 22 percent of the Air Force's tactical hospital and clinics. Currently, Reservists contribute almost 60 percent of the aircraft battle damage repair capability with personnel in six Air Force Logistics Command gained combat logistics support squadrons. Also, the Air Force Reserve provides approximately 26 percent of the Air Force civil engineering force and equipment and 47 percent of the aerial port squadrons. The majority of our combat support build from FY 1986 to FY 1987 is in the civil engineering and medical forces.

In addition to our unit program, the Air Force Reserve has a successful program to provide trained individual mobilization augmentees (IMAs) to the active force upon mobilization. IMAs are members of the Selected Reserve and are assigned to specific positions established in active force organizations. They are trained and supervised by the active force. IMA requirements are identified by grade and skill as part of the annual wartime manpower planning process of the Air Force.

We finance our force structure and programs primarily in two appropriations. These are the Reserve Personnel, Air Force appropriation and the Operation and Maintenance, Air Force Reserve appropriation.

The Reserve Personnel appropriation provides for the pay and allowances of reservists during their active and inactive duty training periods, while performing special tours of active duty, and while undergoing school training. It also includes funding for Reserve personnel called to fulltime active duty for training, administration and recruiting of the Air Force Reserve program. Also included are the military personnel costs of students enrolled in both the Senior and Junior Reserve Officer's Training Corps (ROTC) programs and students participating in the Armed Forces Health Professions Scholarship Program (HPSP). Although the ROTC and HPSP programs are not managed or controlled by the Air Force Reserve, their costs are included in this appropriation.

The FY 1987 request for the Reserve Personnel appropriation is $646.0 million which is an increase of $34.2 million over the FY 1986 current estimate. This growth reflects increases of 3,100 end strength and 2,700 average strength. Our second F-16 unit (at Luke AFB, Arizona), the full year impact of FY 1986 aircraft conversions, and additional aircraft in FY 1987 account for most of the requested increase in personnel. Additional requirements in mission support capability to meet wartime taskings are reflected by increases of 168 aerial port aircraft loading and transportion personnel, 749 medical support unit personnel, and 991 civil engineering specialists. Also included is $6 million for pay and travel for thousands of Individual Ready Reservists to be involuntarily called for one day's active duty for data collection at centers across the Nation.

The Operation and Maintenance, Air Force Reserve appropriation provides for the day-to-day operating expenses of Reserve bases and units. This includes the pay of civilian personnel, aviation and ground fuels, depot maintenance, real property maintenance, supplies and other expenses required to carry out the Reserve mission. This appropriation increases in FY 1987 by $72.9 million of which $12.2 million is price growth and $60.7 million is program growth. The program increases are the result of obtaining additional C-5 equipped and KC-10 associate aircraft, the F-16 unit conversion at Luke AFB Arizona. It also includes the full year's operation of the C-141 aircraft conversion that occurs this year plus additional C-141 aircraft in FY 1987, and additional units and mission changes to enhance readiness and wartime capability. The increases in FY 1987 occur in C-5 Strategic Airlift ($12.8 million), KC-10 Tanker Cargo ($10.1 million), C-141 Strategic Airlift ($10.3 million), F-4 Tactical Fighters ($1.0 million), F-16 Tactical Fighters ($4.3 million) and Civil Engineer, Aerial Port, Aeromedical Evacuation and Medical Service Units ($2.2 million). Depot Maintenance program growth ($19.5 million) is related to the addition of more modern, sophisticated aircraft to the Air Force Reserve inventory and increased structural repairs on the F-16 and aging F-4 fleets. Our base operating support and real property maintenance requirements also increase numbers of modern aircraft located on Air Force Reserve bases.

The requested growth continues to recognize the ever changing needs of our national defense and provides the Air Force with a better equipped, more operationally oriented Air Force Reserve that can be mobilized immediately.

The Air Force Reserve effectively displayed its war fighting capability in 1985 by taking top honors in three of the Air Force's most prestigious competitions: Military Airlift Command's Volant Rodeo (an international tactical airdrop competition), the Tactical Air Forces' Gunsmoke (a world-wide fighter gunnery competition), and the Strategic Air Command's bombing and navigation competition.

The Air Force Reserve is also the first command to receive for two consecutive years the USAF Chief of Staff Special Achievement Award for outstanding flying safety accomplishments. This award was based on high standards of flying safety and mission accomplishment, with 137,500 hours in 11 types of aircraft.

The war-fighting and readiness role of the Air Force Reserve continues to be an important element within the Total Force. With the continued support of your Committee, we will continue to modernize our equipment, effectively accomplish operational mission requirements, recruit, train and retain the people needed to ensure we are ready to fight at any time.

Before closing, I want to express my appreciation for the concern and interest shown by this Committee in the readiness and equipage of our Reserve Forces.

This concludes my statement, Mr. Chairman. I will be glad to respond to questions.

Senator STEVENS. My staff has given me a "Grin and Bear It" cartoon. I am in the habit of asking for original ones if they are pertinent and then we blow them up. This one has the caricature of two of you gentlemen walking back to the Pentagon and the comment of one to the other says, "They should give campaign ribbons for attending Senate budget hearings." [Laughter.]

Senator ANDREWS. Above the call of duty service ribbons today. That is not this committee, but another committee that is going on upstairs, five floors above.

GI BILL

Senator STEVENS. I am not going to get to my point on questioning yet, but I think there is an area here that has not been covered yet, and that is this GI bill.

I would like to ask each of you to comment upon the impact of the GI bill in your service.

Gentlemen, even my friends here do not know it, but one of my first public statements I ever made back in 1959 or 1960, when I was thinking about running for the office for the first time, pertained to the use of the GI bill as an incentive to maintain enlistments in the Guard and Reserve. I still believe in it very much.

I am disturbed about what I am hearing about the concept of eliminating the GI bill. I would like to have you add to your statements—Mr. Secretary, I am sort of putting you on the griddle first, but we will be happy to have your statement, and I think the committee as a whole would like to hear from each one of the services, each of you representing the Guard and Reserve in the services, as to what the impact of the GI bill is on your service.

You are first, Mr. Secretary. You get a service ribbon, too.

Mr. WEBB. First, Mr. Chairman, I worked 4 years on the House Veterans Committee and worked with Chairman Montgomery over there, and have also studied under the GI bill. I have admiration for what it can do for an individual.

I supported the GI bill last year in my testimony. My belief then was that it would be able to reach a target group in recruiting that was not reachable under our other incentive programs: the individual who was going to stay in school. There are only about 10 percent of the enlisted members of the Guard and Reserve who had college as of last year. And the GI bill would also have an effect on attrition.

I think in the Guard and Reserve scenario it was a well-targeted program. I believe it was an unfortunate victim of some of the budget cutbacks. The decision was made purely on cost.

REINSTATEMENT OF GI BILL FOR GUARD AND RESERVE

Senator STEVENS. What would be your opinion if we reinstated it only for those people who serve in the Guard and Reserve, men and women?

Mr. WEBB. My personal view is that this is the place where it would work best in the way that we are talking about incentive programs. You are reaching an individual who does not want to affiliate and go away from home, the type of person who normally is not affiliated.

We are also addressing an area where we now have serious problems in the Guard and Reserve, that is attrition rather than retention, getting an individual to stay in over a period of years. I think it was a well-targeted program.

As I said, it was eliminated purely on the basis of cost.

GI BILL AS ADJUNCT TO ROTC

Senator STEVENS. Do you not think it would be an adjunct to ROTC, in effect, by having people who have served in the Guard or Reserve come to the universities and colleges with that service behind them and be able to fulfill their educational requirements?

They would then be there and could keep up their activities on campus, ROTC activities.

Mr. WEBB. It would have that possibility, sir. As a matter of fact, I was talking with General Matera, who is the Wisconsin adjutant general, this past week. He was saying he had a 76-percent participation rate among those eligible and his point was exactly the point you have just made. I do not want to take anything away from what the Guard witnesses will say, but it strengthens the officer development in the Guard.

Senator STEVENS. Let us sort of rotate here and go to you first, Admiral.

Do you use the GI bill?

USE OF GI BILL BY NAVAL RESERVE

Admiral KEMPF. Yes, sir. However, it has been underway such a short time that it is difficult to make any firm conclusions, but there is no question it is helping us to access high-quality people who will stay with us, certainly during the period when they participate in GI bill benefits. The GI bill will keep those people coming.

Senator STEVENS. If it is cut out, will it change the quality of the recruits coming in?

Admiral KEMPF. Yes, sir, I believe it will. We have had some difficulty in the Navy. I hate to say it, but in the Naval Reserve we are getting less quality new accessions than some of the other services. It is difficult to explain why.

The new GI bill will help us attract more high school graduates and upper mental group personnel. We are trying very hard to compete, but it is difficult competing with some of the other components. This definitely will help us.

Senator STEVENS. General Walker.

General WALKER. Thank you, Senator.

USE OF GI BILL BY NATIONAL GUARD

Without objection by these two gentlemen, I am going to speak for the Guard. If I leave out anything, they can come in. We will save some time.

Senator, the GI bill and the National Guard have become an entity. The latest report I have is that we have over 13,000 people eligible in the Army National Guard and over 6,000 people eligible in the Air National Guard for the GI bill.

This does not include split trainees who enlist in the Guard while in high school, to go to basic training their first summer. Then their next summer go to advanced individual training.

Those people are not eligible for the GI bill until they have finished that second summer of training. So, really we cannot count those people as GI participants yet and those are mainly college-bound students.

So, once they become eligible, we think our participation will really go high. I think you will find right now the number of Guard participants is probably more than the rest of the Reserve components combined.

Sir, if we are to compete and if we are to use high technology in the Army and Air National Guard, we must be able to attract that bright, young, educated individual into the Guard. It is imperative that we keep this program. In fact, there are some improvements we need to make to it.

Senator **Stevens**. Any of you on this end of the table who would like to comment about this?

USE OF GI BILL BY ARMY RESERVE

General **Berkman**. With respect to the Army Reserve, I believe it is very important to bring in the kind of people we need and continue to bring them in. I think it will have impact on retention as well as expanding the market of individual young men and women interested in a Reserve career.

It is interesting that our figures through January of this year with respect to non-prior-service individuals that we have brought into the Army Reserve at the same point last year, it was about 8,000. This year it is 10,000.

Mental category, which is very important as an indicator of quality for a comparable period, indicates non-prior-service population is now 52 percent in the upper mental categories as opposed to 45 percent last year.

Then looking at the number of individuals who are eligible, that applied for benefits under the GI bill, it is close to 67percent.

So, all of the indicators are indicating that it is working, it is achieving its objective, not only bringing the kind of people in, but it will also have an impact on retention. I am convinced it is opening up the market, college-bound young men and women who now will find another career in the Reserve components very important.

Senator STEVENS. Senator Stennis.

VALUE OF GI BILL TO GUARD AND RESERVE UNITS

Senator STENNIS. Mr. Chairman, I am impressed with this testimony here about the impact of the GI bill.

General Walker, what is your recommendation about the program being continued and the money supplied?

General WALKER. We recommend that the new GI bill be continued. We think it is imperative that it continue for us to attract that bright young man and woman that we need in the Guard today.

Senator STENNIS. Does it have an effective appeal for people other than those who are on their way to college?

General WALKER. That is the area of GI bill benefits which needs improvement.. We have some people who are not going to college that need to be trained in the vocational schools. They are not authorized those benefits under the present GI bill.

Senator STENNIS. How many of those are you speaking of, percentagewise?

General WALKER. It would be only a guess, but approximately 25 percent..

Senator STENNIS. For instance, you still need more people who qualify for your needs with respect to new technologies.

General WALKER. We do not get enough of those anytime, sir. We can always use people with those abilities.

Senator STENNIS. If you are going to continue at the present rate, you have to have more money. You seem to lack the expressed authority here to ask for this money. I do not understand how that is, but you are testifying here as a professional and you have seen it work and you recommend that it continue.

General WALKER. Without a doubt.

Senator STENNIS. I am impressed with that.

I have some other questions, but I will yield at this point.

RECOGNITION OF AND SALUTATORY REMARKS FOR DWIGHT DYER

Senator STEVENS. I would sort of like to interrupt the proceedings and ask you to recognize an old friend of ours over here who is probably with us for about the last time. Once I do this, it will be the last time.

[Laughter.]

Senator STEVENS. I want to put on the record our appreciation of the work that Dwight Dyer has done as the Staff Director of this subcommittee now since 1981. When I first came here he was Senator Bible's administrative assistant.

Then he came to the Appropriations Committee and was the Staff Director of the Interior Appropriations Subcommittee under Senator Byrd. We worked together quite closely during that period. I was ranking member at that time.

When I became chairman of this subcommittee, I asked Dwight if he would come and take over the task of not only being the Staff Director, but of organizing the subcommittee staff. He did an excellent job.

I think in 6 years he has mastered the whole question of Defense appropriations in a manner that I think no one can find fault with.

He has never been seriously questioned about the source of our information as we have gone into hearings, or even more than that, the real test of all is to go into conference with the House where they have, as you know, two and three times as many staff as this subcommittee does, but we have to meet with them one on one and carry our points.

I think we have done that pretty well. If you look at the record since 1981, it has been the bill that has been written by this subcommittee that primarily has been the bill that survived and became law. The primary source of all that work and coordinating all of it is Dwight Dyer.

So, Dwight, it is in black and white somewhere and you can sue me if you want, but I thank you for your help and we are sorry to see you go off into that nether land of private business, but we know you will be as successful there as you have been here.

You have done a tremendous job for us. We very much appreciate it.

[Applause.]

REMARKS OF SENATOR STENNIS

Senator STENNIS. Mr. Chairman, may I join in words that are brief, but have a lot of meaning regarding this work that this gentleman, Dwight, has done. I can testify that you two make a good pair.

Gentlemen, one of the most pleasant experiences I have had during my tenure here is to see the fine, high quality of work that a great number of these members on our staff do, not only in this department of the Government but others, too.

It is something that is not fully realized and appreciated. I am delighted to be associated here with you gentlemen.

Senator STEVENS. Thank you, Senator.

REMARKS OF SENATOR RUDMAN

Senator RUDMAN. Mr. Chairman, may I say a word on that point?

As the newest member of the subcommittee, in 1981, and having a great interest in this subcommittee, I want to add to your comments that Dwight and the entire staff have been enormously helpful to a new member of this subcommittee.

I also agree with Senator Stennis that the chairman and Dwight have made a great pair because he is always very cool, whereas Dwight is very calm about everything.

[Laughter.]

Senator STEVENS. Senator Cochran, you are recognized.

REMARKS OF SENATOR COCHRAN

Senator COCHRAN. I will be happy to yield you my time, Mr. Chairman.

I appreciate your taking the time to thank Dwight for the fine work he has done. I have been impressed, as you have. We are going to miss him. A person like Dwight Dyer is hard to replace, even though we have some very able staff members who are taking up the slack and working very hard to keep the subcommittee on the right track. We could not do without them.

We are going to miss Dwight an awful lot.

Thank you.

REMARKS OF SENATOR JOHNSTON

Senator JOHNSTON. Mr. Chairman, I simply would like to say that I have been, I will not say surprised, but vindicated in my confidence in Dwight and how quickly he has caught on to defense. This is a vast and complicated subject.

Dwight for years did Interior, but he got up to speed on Defense and, as a matter of fact, out-accelerated a lot of people, including myself, who have been around here longer than he. I think that is a great tribute to him.

He did not have success in holding down his chairman, but he was indeed an island of calm in a stormy sea.

[Laughter.]

Senator STEVENS. I can see the post again.

Do you have any questions at this time?

SUCCESS OF GI BILL

Senator COCHRAN. I want to thank the witnesses for describing the success of the GI bill. I think it is an important part of our effort to attract well-qualified people into the Service, Guard, and Reserve forces particularly. I was glad to hear those comments.

Also, General Conaway's statement about some of the upgrading that is being done with our airplanes. We appreciate having the benefit of newer generations of aircraft to fly in Mississippi.

We appreciate the attention to that need. It has been a need for some time. We think it will improve the ability of those who are working in our State to respond to the call and to maintain a high level of readiness.

Overall I think you are all doing an excellent job in keeping the Guard and Reserve well trained and ready if needed. So much emphasis has been placed in recent years on the Guard and Reserve. I know that budget has been about $5 billion a year and now we are seeing the request this year for $2.8 billion.

I wonder about the practical consequences of that. I am not sure people have focused in on the fact that that is such a big percentage decrease. I hope we can continue to do the job that is being required in the Guard and Reserve with that kind of money, but I do not know.

Would you like to speak to that or have you already done so, Mr. Webb?

Mr. WEBB. Senator, the figures that you mentioned relate to the procurement budget, not to the overall budget.

Senator COCHRAN. Right. That is procurement, you are right.

Mr. WEBB. We have spoken about that quite a bit this morning.

I would defer to anyone else who wishes to add anything.

The overall budget has increased by 53 percent during this administration. It is at $16.9 billion.

Senator COCHRAN. How does that compare with previous years' appropriations?

Mr. WEBB. It has increased every year.

Senator COCHRAN. Thank you, Mr. Chairman.

Senator STEVENS. Senator Rudman.

SUCCESS OF GUARD AND RESERVE UNITS

Senator RUDMAN. Mr. Chairman, I am sorry I was not able to get here to hear the testimony of the witnesses. So, I obviously do not want to ask questions that will be duplicative. I want to make a general comment, knowing how you feel after having a chance to meet privately with most of you on a number of occasions.

I think in this time of budgetary constraints caused by rising deficits Congress should even do more than it has in looking at the various components of the Reserve and the Guard. Not only are they excellent people, but the cost to the Government, compared to active duty units, is quite a contrast.

I wonder how many people who are flying over the Atlantic on C–5A's and C–141's that are refueled enroute recognize that all of that refueling or virtually all of it is done by units of the New Hampshire Air Guard operating out of the Pease Air Force Base. Also, there are the professional airline pilots who do their Reserve duty in addition and do it very well.

I wonder how many people realize that many of the competitions in the Tactical Air Command have been won by Reserve and Guard components.

I wonder how many people have had a chance to visit the Guard and Reserve units on field training and watched the proficiency with which they carry out their maneuvers and the education of the officers and enlisted men.

I have believed for a long time we ought to shift a good deal of what we do to the Reserve and Guard components. That is what America has been about. We have been a citizen soldier in time of war. There has been one in every war in this Nation's history. If we are unfortunate enough to have another conflict, it will be the same again.

It has to be expanded readily. It depends on people like those under your command. I, for one, during this year's budget deliberations will give very high priority to the Guard and Reserve components of all the services.

Senator STEVENS. Thank you very much, Senator.

ARMY VOLUNTEER MUSTER TEST

Mr. Secretary, I understand that the Army conducted a voluntary muster test in January and that you now want to implement this departmentwide as far as the forces under your area.

Now, is this concept, as I understand it, to require the ready reservist to serve at least 1 day each year on active duty? Is that what the muster is?

Mr. WEBB. There are two separate programs. There was the voluntary muster which was mandated by the Congress last year to the Army to test a limited number, but on a nationwide scale, of individual ready reservists. As a follow-on to that, we have a departmental policy beginning in fiscal 1987 where we will require 1 day of mandatory active duty per year among all members of the Individual Ready Reserve. They are two separate programs.

Senator STEVENS. Tell us what the purpose of this is, in your opinion. I know we mandated it at the request of somebody.

Why should we do this? There is a cost factor associated with this, is there not?

Mr. WEBB. The cost is estimated at $61 million DOD-wide. For the Army, it is $38 million. In the voluntary test that we ran, the per-head count validates that figure.

REFRESHER TRAINING FOR IRR

As a comparison, for instance, the Army currently runs IRR refresher training for about 10 percent of the IRR, about 31,000 people, at a cost of more than $100 million.

So, we believe the cost is minimal as opposed to the benefit that we are going to gain.

Senator STEVENS. You are not going to duplicate it? If you go to muster, you do not have to go to the IRR?

Mr. WEBB. That is right. It is not a redundant program.

Senator STEVENS. What if the person does not make muster?

Mr. WEBB. An individual ready reservist is under a military obligation in the same sense as a member of a drilling Reserve unit and should be dealt with accordingly.

The difficulty we have when we start thinking about having to mobilize is that the pretrained individual manpower pool has dwindled from more than 2 million people, if you include the Standby Reserve, in 1970 down to just a half million people.

Those are the assets that we are going to have to rely on for 120 days after we have to mobilize because it will take that time to institute induction and move the first recruits out of the training pipeline.

So, we are running a very thin margin on the number of people that we have and we simply have to manage those assets affirmatively.

ADD-ON TO GUARD AND RESERVE ACCOUNT

Senator STEVENS. I understand that before I came in Senator Stennis mentioned the $1.5 billion add-on that we put on the Guard and Reserve accounts last year that is being challenged by other committees.

I want you to know that we have no disagreement. We have a uniform feeling on this committee that that money has been made available by act of Congress and is not subject to question by anybody. I would hope that there would be no question about expending that money for its purpose.

If it is not spent, the impact of the current procedures would be, as I understand it, that it would not be in the base and not only would you not have available the improvements that we envisioned, but you will be operating on a lower base in the future as far as any restrictions are concerned.

I would urge you to study the response of the Department so far and do everything possible to secure the release of those funds.

EXPAND ROLE OF GUARD AND RESERVE

Mr. Secretary, I have asked the General Accounting Office to study the feasibility and cost effectiveness of expanding the role of our Reserve and Guard forces in Europe.

As we go over to study the arrangements that have been made to carry out our NATO commitment, I have been impressed with the fact that the Guard and Reserve units are scheduled for almost immediate deployment to Europe and we are told when we get there, one of the reasons for the program of keeping so many forces over there is that these people who might have to fight over there ought to know a little bit more about the terrain that they would be deployed in in the event of emergency.

Yet that same philosophy does not seem to apply to Guard and Reserve forces as far as the Department policies are concerned. I believe that that is the case not only in Europe, but in the Pacific, and that we ought to have an expanded rotational training program so that the Guard and Reserve could supplement the permanent forces, the active duty forces, in Europe and the Pacific.

I am just taking the occasion to notify you that that study is going on by the General Accounting Office at my request.

I want to ask you, Mr. Secretary, and those of you who command these forces, what limits do you think there are on expanding this role, or do you feel that this role should not be expanded?

I would envision ultimately perhaps the concept of trying to see if we could extend the duty period on a biannual basis so that the reservist or Guard person might be subject to an assigned role overseas for 40 or 60 days every 2 years or every 3 years, whatever it might be, and to supplement our permanently assigned active duty personnel abroad.

We have an ever-increasing number of people abroad. We have 115,000 active duty military people now and almost 400,000 military dependents, plus a substantial number of civilians assigned abroad now.

It is my feeling that the more we increase those, the more we have demands for permanent housing and all of the base structures that go along with permanently assigned personnel. We ought to start looking to expanding the role of our Reserves.

Now, it is premature to ask you to comment on the GAO study because it is not completed, but I would ask you on the concept, Mr. Secretary, whether you have explored that concept and those who are with you, what they think about it from a military point of view?

Mr. WEBB. From what I understand, your thought is to, on a rotational basis, replace certain active units with Guard and Reserve units that would move in for shorter periods of time, but in effect permanently?

Am I understanding the proposal correctly?

PERMANENT TROOP COMMITMENT OVERSEAS

Senator STEVENS. We have no desire to reduce the commitment of troops to Europe or to the Pacific, but to determine whether or not a portion of that permanent commitment can be met by Guard and Reserve forces on a rotational basis so that the Guard and Reserve would have a responsibility of providing whatever portion would be agreed upon into the indefinite future on a rotational basis.

Mr. WEBB. First of all, I would like to say that I was very much taken by the speech that you made to the Reserve Officers Association when you received the Minuteman Award a couple months ago. This seems to be in some moderated form one of the three points you were making there, that something would have to be done in the future with respect to the active base.

I would make just a few precatory points, if I may, because I have not really thought this through at any great length.

One is that we have been increasing Guard and Reserve participation in Europe quite extensively, about an 80-percent increase in our overseas exercises just during this administration.

Last year we trained in 44, I believe, different countries around the world. A lot of it has been going on in the present structure. Forty percent of the units that went to Reforger this year were Guard and Reserve units.

The two big questions, of course, would be how this would take place on the ground, and what the impact would be on the Guard and Reserve units having to prepare and deploy. That is what your multiplier would be.

For instance, if you are going to have a unit serve in Europe 3 weeks or a month every 2 years, it may take them a year to prepare to do that, as we saw recently with the Wisconsin deployment where they deployed a brigade. What impact this might have on employer support problems because these are professionals in other areas is open to question. Something that you would probably be able to address in this committee much better than I could right now is the impact these deployments would have on the NATO countries, what sort of signal this might give to our friends and our enemies.

We also are working on very aggressive host nation support agreements and this sort of thing to attempt, in effect, in the long term, to trade technology for people because the manpower bases are so broad in NATO.

So, there are things that are in the mill that might make this more of a workable concept in the long run, but that is about as much as I think I can say in reaction at this time.

Senator STEVENS. General Walker.

OVERSEAS DEPLOYMENT TRAINING

General WALKER. This is an interesting concept that you have put forth and something we in the Guard have had little chance to explore.

I definitely support what you say as far as expanding the overseas deployment training in which we participate in all theaters across this globe. There is a limit to the missions that we can assume, sir. Certainly there is a limit to the time that we can expect the citizen soldier to put in.

The big problems today involve families and employers. We have figures to back us up here that of those that get out, 31 percent of them say it is family problems. Another 31 percent say it is employer problems.

Today, both in the Army and Air Guard, officers are putting in an average of about 71 to 72 paid days. That does not count the time they are putting in free of charge. The enlisted people are putting in an average of about 47 days for an overall average of almost 50 days a year.

Now, sir, there is a limit as to how much we can expect. We have not reached that limit yet, but I hope we are smart enough to recognize it when we get there, that this is the point.

Those are the things that we really have to consider when we talk about new missions.

CENTRAL AMERICA MISSIONS

Senator STEVENS. I understand the Central American missions have practically been performed by Guard and Reserve forces now for a period of almost 2 years.

General WALKER. Can I talk about that, sir?

Senator STEVENS. Yes, sir.

General WALKER. I am glad you gave me that chance because, as you know, we have recently been criticized by some that I think are misled in their thinking.

We go to Latin America for one reason and one reason alone, and that is to train troops. When we went into the total force policy, I believe in 1972–73, the civilian leadership assumed the responsibility right along with us in the uniform to make sure that we provide our people the best training opportunities possible.

Where could we, for example, for engineer training, where could we go in this country, or in your State of Alaska, and have the opportunities we have down there to start from scratch, plan the project, move our equipment, deploy our equipment, execute the plan and build a road?

I just say that opportunity does not exist in those places.

Senator STEVENS. We have supported that. Those of us who have gone down to see that agree with you, General, and have supported verbally the whole concept of that training.

U.S. TROOP FORCE IN EUROPE

By the same token, even as we travel around the country, we hear an increasing sound from younger people asking, why do we maintain troops in Europe at all. The concept of maintaining troops there really is not totally connected with training or even partially connected.

It is connected with the obligation we have assumed. I am saying part of that opposition could be decreased if it was truly also a training mission for the Guard and Reserve.

General WALKER. In Europe?

Senator STEVENS. In Europe and in the Pacific, as far as that is concerned, and in Korea, Japan, and elsewhere.

I think in terms of the overall period we are going into, hopefully another extended period of peacetime activity, that it would be very meaningful to your people to have a unit experience in these areas and not just an oversight.

I understand you have had some training missions, you have gone over for a day or two to prove you can lift your troops over. I can see in my mind's eye that POMCUS shelter that we visited, a couple of them, as a matter of fact, and we know that there are reservists that are supposed to go to those and put the equipment to work in the event of emergency in Europe within 3 to 4 days.

Most of those reservists have never been there. I think if we are going to carry out this concept that is implied in the active duty assignment, that we also ought to see to it that the Reserve and Guard personnel that are going to be sent to various portions of the world understand it.

I know my athletic friends tell me if you are going to be in a race on a downhill ski course, there is a degree of loss of ability that relates to the newness of the course. It is best to go there and run it a couple of times. When that part of your senses is satisfied, then you can do your best.

I think it applies to your business, too. If a person is in an area totally new and asked to perform under extreme stress, I think you would be much better off if that person had been in that area and had some awareness of what his duties were going to be on the ground or in the air or on the sea, wherever it might be.

To me, this is a lack in our Reserve and Guard capability.

EXPANDED ROTATIONAL TRAINING

General BERKMAN. Mr Chairman, may I comment on your comment?

I really applaud any program that will result in expanded rotational training. We have found that the participation in exercises in areas of the world where Reserve units are likely to perform their wartime missions have all the benefits that you have described.

With respect to presence in Europe, I would like to point out there are Reserve units that have fully deployed elements in Europe. As a matter of fact, the major Army engineer command in the event of the exercise of that op plan is in Vicksburg, MS, the forward element of that unit in Europe, and there is a lot of rotational training taking place.

I would like to express some concern, and General Walker has alluded to it, and that is the concern on recruiting and retention of time frame away from families, employers, and those kinds of things we are all concerned about.

Two weeks of annual training now I think is about right, with exceptional periods, with such advanced notice to accommodate employers and families for 3 weeks if the exercise requires it.

Other than the 40 to 60 days that you postulated for every 2 years, I would have some concern about that.

Senator STEVENS. I think those concerns have to be addressed. It could well be that the permanent portions of the units could go in for 60 days and the others could go in for 2 weeks and rotate your people in and out and have your active duty serve over there.

We are not recognizing the total increase in the cost of maintaining those permanent commitments in Europe and the Pacific. One of these days the budget control mechanisms are going to require the withdrawal of those troops unless we start getting cost effective in their assignment.

GROUND UNITS IN REFORGER

Mr. WEBB. One thing for the record, for clarification.

The typical ground units that go on Reforger make a 3-week deployment. General Temple might talk about the 32d Brigade. We moved the entire brigade over for 3 weeks with all their gear.

General BERKMAN. There is another program that will support the concept. That is as we get additional full-time unit support, full-time people in the Reserve, AGR or military technicians, we have found that those individuals supporting the unit at home stations, as well as what we call the duration people that support the unit and do the planning and assistance at the overseas training area, makes that take place.

EXERCISE BRIGHT STAR

As a matter of fact, we had a significant number of units and individuals participate in exercise Bright Star, the Central Command exercise in Egypt and the Middle East. The existence of full-time unit support personnel made that training activity possible for the Reserve.

Senator STEVENS. General Temple.

General TEMPLE. Quite obviously, everyone at this table agrees with your basic premise that the Reserve forces need an opportunity to exercise in the areas where they are going to have to fight.

As Mr. Webb alluded to, the 32d Brigade from the Wisconsin National Guard was probably the largest combat organization deployed overseas for Reforger with its equipment. That went extremely well.

ANG ARMORED DIVISION IN EUROPE

At the present time we are in discussions with the U.S. Army Forces Command commander on the feasibility, and the feasibility is driven principally by economic considerations, of deploying an entire armored division to Europe in the near future, an Army National Guard division, with a view that it would provide opportunities not only for deployment training, but show our potential enemies our ability to deploy that force and demonstrate the professionalism contained in the Army National Guard.

That is a consideration that is going on at the present time to enhance your objectives.

Now, given your hypothesis of deploying a unit to Europe, principally or possibly in the Pacific, which would train for extended periods of time, give us an opportunity to think through that concept and perhaps offer some modifications. It certainly has some adaptability to the Guard because we have seen that taking place in Central America, as a matter of fact.

ALASKA LIGHT DIVISION

Senator STEVENS. The new Light Division in Alaska will have two brigades in Alaska and the 3d Brigade will be a Reserve brigade that comes from somewhere.

General BERKMAN. The Minnesota 205th Brigade, sir.

Senator STEVENS. It seems to me that the concept there really is that at times that the Minnesota group is going to come up and learn something about Alaska and actually when we started looking at that, that is what gave me the idea, why cannot we have similar deployments in Europe and in Korea?

If you look at the British forces on the continent, they have done it for years. They have a permanent force that is not maintained at their 55,000 minimum, but they augment it with reservists so that they maintain their 55,000 at most times.

I do not think we have a stated minimum. Senator Stennis and I recall the battle with our good friend, Senator Mansfield, in the past. We do not have a stated minimum for Europe.

We now have a stated maximum in the law that cannot be exceeded except by approval of the President.

I do believe that we ought to look to the question of how much of the deployment can be achieved by Guard and Reserve forces on a reasonable basis.

General TEMPLE. In some way we are essentially doing that in Central America. General Walker alluded to the exercises that are going on there. We deployed in January, at least for the last 3 years, a main body of forces that set up in the area where the exercises are taking place.

They will be there during the duration of the exercise, principally from January through May. The rainy season begins the latter part of May and we try to get our equipment and soldiers out of there. The main body provides a very thin permanent base and the equipment remains in place. We rotate units for 2 to 3 weeks at a time.

I think this is generally the scenario about which you were talking; keep the equipment in place and rotate our soldiers and let them train in the area, give them that kind of experience that you cannot have training in the continental United States.

That type of 2- to 3-week rotation, going back to the issue that Mr. Webb and General Walker raised, would not be as significant an inhibitor to family and employer support if it were pursued in this manner.

AIR GUARD INVOLVEMENT IN CENTRAL AMERICA

Senator STEVENS. I marvel at what General Conaway has been able to do. I do not know how logistically you have done it, General, but I know that the bulk of the Air Forces that have been operating in Central America have, in fact, been your forces in the Air Guard, the Air Guard, and Reserve, I mean.

The impact of what we are doing I think is going to have to rely on examination of your logistics.

Am I wrong?

I have seen Guard units from Alaska and from Florida and from Alabama and all over down in Honduras and Central America. You have had that almost as a steady basis, have you not?

General CONAWAY. Yes, sir, for 9 years we have had permanent rotations to Central America. We have six C–130's at all times supporting U.S. forces in Central and South America, with embassy resupply.

General Gill and I, the Air Force Reserve and Air National Guard take approximately 6 months a year each for the C–130 support south of the border.

I have four A–7's in the Air National Guard deployed 365 days a year that are deployed to Central America, to Howard Air Base to help support the Southern Command force.

Senator STEVENS. Have these people been really Guard and Reserve, not on active duty?

General CONAWAY. That is correct.

LENGTH OF SERVICE FOR GUARD AND RESERVE FORCES

Senator STEVENS. How long do they serve when they are there?

General CONAWAY. They will vary from 15 to 30 days, depending on their availability. Most of them have to rotate at the 2-week mark. Occasionally we have someone who can stay 60 days, depending on what time of the year it is. If we have students, be they enlisted or officer, we take advantage of their availability.

The Alaska Air National Guard C–130's rotate approximately once every 15 months. They have a solid month that they are responsible for all the C-130 support south of the border.

The Mississippi C–130's have been responsible for that. We go back 9 years. We have a longer history than that with rotations and how they work.

One of the early permanent rotations in the Guard and Reserve in support of the active, was completed in 1977. It took place in Europe with a 10-year continuous rotation of KC-97 refueling tankers. We supported U.S. forces and allied forces over there. We went 10 solid years with our tankers, rotating people and mounting a small cadre of permanent party just like we now have in Central America and Panama. It is tremendous training.

On April 1, we are starting something along the lines you are talking about, we are pulling air defense alert in Europe with our great air defense alert experience in the Air National Guard. We will have an alert detachment in Europe, on 5-minute alert, for 1 solid year to assist the U.S. Air Forces in Europe with conversions that are taking place.

Senator STEVENS. I would like to have the cost effectiveness of that. I think it is there. If it is there, then we ought to try to see if we cannot push that policy to its reasonable extension.

I understand what General Walker is saying. If we are unreasonable about this, we get to the point of being a disincentive to enlistment.

OCONUS TRAINING

General CONAWAY. Our rotations for all of our other units are very important to us. Even with the Gramm-Rudman budget cuts that we are working between now and September 30, the priority is so high on our OCONUS training that I am not cutting any of the OCONUS training that we have scheduled.

We are making cuts elsewhere. They will hurt. We are cutting flying hours and some other things, but I am not cutting any of these overseas rotations or overseas training maneuvers we have because that is the best training we can possibly get.

TANKER UNIT MOVE TO ALASKA

Senator STEVENS. General Conaway, I appreciate what you have done in supporting that move of the tanker unit to Alaska, that rotation of people out of various places. It is less cost effective than the decision you made. You got a little heat from the other side of Capitol Hill.

General WALKER. It is very important to note here that every member of this committee has had National Guardsmen in Central America from their States. To my knowledge, 13 of the members here have had Army Guard members on the ground in Central America.

Senator STEVENS. We are going to go down there again sometime this year.

Senator Stennis.

Senator STENNIS. Mr. Chairman, just to make this remark to thank you and to thank the witnesses here today for this hearing and express my satisfaction after hearing all the testimony.

My first recollection of a person in uniform was way back when Woodrow Wilson was President of the United States. He sent some of our Army ground troops, National Guard, down to Mexico.

There was a young fellow there in a little town where I lived that I personally knew. He belonged to the National Guard. I remember seeing him in his uniform, he had on that great old hat. He gave me pride; he had his flag on his uniform. He was a soldier in the National Guard.

That was the beginning of my pride in the American military uniform. It received plenty of extra attention up here.

I want to say a special word here. General Walker and I have known each other a good long while. I am proud of the record he has made, along with the others here. I understand, according to the way the wheels turn, this may be his last appearance in his present capacity.

I am proud of his record and what he has done. He has been a great help to me. Although we have not seen a great deal of each other, I have known he was there. I think he has been a credit to the military and I want the record to show it.

Senator STEVENS. Senator Stennis has forgotten more than most of us will learn in a lifetime. I remember when he first came to Anchorage, he got into the hotel and got hold of the commanders on the base there, and what did you tell them?

You wanted every tenth name on the enlisted man roster of these two units?

I do not know how he picked them out. They came one by one to the Senator's hotel room. He asked them questions, finding out how things were going in Alaska.

You do not get briefed often in some fancy room. He sat and invited those young men up and talked to them for 2 days. When he came back, he sort of had an idea of what was going on in those units, I can tell you.

The bases are still there. At that time it was his decision that helped us maintain them.

EFFECT OF GRH ON GUARD AND RESERVE

We have one of the gentlemen here that is involved in this mechanism for discipline on the Congress, so I have to ask you for the record, Mr. Webb, if you will summarize the effect of the Gramm-Rudman-Hollings reductions on the Guard and Reserve, and particularly with regard to procurement.

I support his amendment, by the way.

Mr. WEBB. The first principle that we were able to lay down inside the Department of Defense and which we will adhere to at the OSD level is that no greater percentage of any of these reductions will come out of Guard and Reserve accounts than will come out of other accounts. This was the starting point.

What this has meant in fiscal 1986 is a total reduction of $403.9 million in fiscal 1986 moneys out of Guard and Reserve accounts. This is mostly out of operations and maintenance accounts.

We are going to have to reduce flying hours, training optempo, and steaming hours, something which each of the Service chiefs have applied at their discretion once the percentages came out to their own units.

Procurement accounts were stretched. Our figures are $32.2 million which would cause a delay in force modernization. Construction accounts were delayed $19.1 million. Military personnel accounts were reduced by $55.4 million: these were principally cutbacks in some of the special training skills.

Senator STEVENS. I understand you have about $4 billion worth of equipment that we budgeted last year for the distribution to Guard and Reserve.

How has that been impacted by Gramm-Rudman?

Mr. WEBB. To my knowledge, none of the distribution accounts will be affected.

LIGHT DIVISIONS

Senator STEVENS. I know that two of you, General Temple and General Berkman, are involved with light divisions. I have, as you know, a particular interest there. So does Senator D'Amato.

Do you have any particular problems we should know about in terms of the Reserve and Guard participation in the light division?

General TEMPLE. We have had some experience initially with the 29th Division which is made up of units from Virginia and Maryland. That is going extremely well.

I think you will find in Alaska the same fervor that the members of that division will have for that new organization. It has really been a very, very healthy situation for the soldier. It has given them a whole new outlook on their training and that is going very well.

As you know, we are just in the embryonic stages of providing a brigade to the 10th Mountain Division which will be headquartered at Fort Drum, NY. So, we do not have much of a track record as far as that particular brigade is concerned.

The indications are if we get the full-time resources that we are asking for in this coming year, that we will be able to have similar success to what we have had with the 29th Division. The key there is having the full-time people to man the special training requirements that go in a light division. I think you will find the same requirements with your division in Alaska.

Senator STEVENS. I am glad to know that. I will take a particular look at that.

BRIGADES IN ARMY RESERVE

General BERKMAN. We have three separate brigades in the Army Reserve. We are delighted that the 205th from Minnesota will be rounding out the division in Alaska.

I think we have found with the Capstone Program and units identified with the real mission and the real part of our Nation and the world, that its improvement in retention and training and equipment and all of the things that flow from that are very important to that unit. We are delighted about that.

As I indicated before, the full-time unit support for not only that brigade, but the other units in the Army Reserve are very important for the Army Reserve, which historically has been at the lowest percentage of full-time support assisting the drilling reservist to accomplish their readiness goals of any of the Reserve components of any of the services.

Continued support of that program is very important in supporting that brigade and that division. We are looking forward to it.

Senator STEVENS. We are delighted you picked that Minnesota brigade to be the supplement to those stationed in Alaska. There has been a long relationship between the two States.

The first homesteading group that President Roosevelt sent to Alaska was from Minnesota. For years our direct main air connection to the east coast was through there. It is still a substantial portion of it.

I think there is a natural relationship between those people. They have a great many relatives in our State and vice versa.

General BERKMAN. Yes, sir, I was born in a little town in the Mesabi Range in northern Minnesota. That is an additional reason why I am proud of Minnesota.

Senator STEVENS. I have some questions about the full-time manning increases that I will submit for the record.

T-39 TRANSFER TO AIR NATIONAL GUARD

We have recently seen some comments, General Conaway, about the T-39 transfer to the Air National Guard to replace the T-33.

Are you going to get those this year?

General CONAWAY. Sir, right now it does not look like we will get those this year. Air Force is working with us to see what can happen. Most of the T-39's are already in aircraft storage at Davis-Monthan. They were taken there before the congressional report came out.

Air Force is looking at two avenues. One is a request for proposal to see how much it would cost to contract out the Fakker aircraft mission versus using the T-39 aircraft. A report will be sent to this committee here.

I do not know the results, but we are standing by. As we implemented our Gramm-Rudman-Hollings cuts, we do not have the money to take those T-39's this year in the Air National Guard.

We do not have the procurement money to put in the necessary ECM equipment. The priority has gone quite low right now as we are trying to keep the basic force going at the same level.

So, the Air Force is looking at both avenues. I do not know the answer.

Senator STEVENS. I think you will have additional questions from Senator Andrews. He has an interest in it, as you know. I know you will want to pursue it with him.

I have some questions, not many, and they should not take too long to respond to, concerning the full-time manning increases and some of the questions that have been brought to members of the committee from the State adjutant general and the Association of Civilian Technicians. We would like to have them responded to in the record.

GI BILL

I want to go back to the GI bill, unless you have further questions, Senator.

This GI bill concept recommends return to the Veterans Educational Assistance Program. My concept at the time was that even though the GI bill was more costly in the initial years, that the overall costs were about the same.

Staff informs me that VEAP is funded for use in out years, but not for this year.

What is going to be the impact of the budget request that is before us now between the GI bill and the VEAP Program in terms of enlistment in the Guard and Reserve this year, Mr. Secretary?

Mr. **Webb**. Are you asking for that in dollars, Mr. Chairman?

Senator **Stevens**. I know what the dollars are. I want to know what the impact is. It looks like there is a hiatus. They are saying do not fund the GI bill and we will fund VEAP in the out-years, but there is no funding for either this year.

[The information follows:]

GI Bill Funding

As you know, the Department's proposal is to terminate the GI bill program at the end of fiscal year 1986 for both the Active and Reserve components and replace them effective in fiscal year 1987 with VEAP for the Active components and the targeted educational assistance program for the Reserve components, essentially as they existed prior to July 1, 1985. Initially there would be minimal costs under VEAP since it is a pay-as-you-go program with no payments made until the individual actually begins college. The GI bill, in contrast, is structured on an accrual basis and payment into the fund begins when the recruit enters active duty or the Selected Reserve, and agrees to a 6-year term of service. In fiscal year 1987, the costs of reverting to the targeted educational assistance program for the Reserve components can be accommodated from within other requested Reserve incentive resources. The fiscal year 1987 payments to new bonus takers for the targeted Educational Assistance Program are estimated at less than $5 million.

VEAP PROGRAM

Mr. **Webb**. That is not my understanding. I would have to check and get back to you.

Senator **Stevens**. Norma tells me that the reason is that VEAP is not used until the person gets out and uses it, whereas we fund up front in the GI bill and the recommendation is to cut the GI bill, as I understand it, to eliminate it.

General **Berkman**. Yes, sir; VEAP is the Active component program.

Senator **Stevens**. It does not apply to you at all?

General **Berkman**. It does not apply.

The alternative to the GI bill for Reserve components is return to the Educational Assistance Program which applied before, which is at reduced level and does not apply to the entire force. That is a less satisfactory program than the GI bill for recruiting and retention.

Mr. WEBB. And that is programmed.

Senator STEVENS. One of my educators in Alaska told me the best thing we could do for the young college student is to give him the GI bill, contingent on his serving 2 years and then going back to school after he finishes 2 years.

The mature student coming out, having been involved for 2 years, is a better student. They would use it as a recruiting tool for the regular services and continue it as an obligation to participate in the Guard and Reserve after the student enters school.

Have you ever looked at it from that point of view, Mr. Webb?

Mr. WEBB. I have not, sir, but as an initial reaction, I do not see how you could get into that kind of detail without perhaps bringing back conscription or scrubbing some of the other educational assistance programs, nonmilitary type, in order to make it work.

Senator STEVENS. They would make Federal assistance available through the GI bill.

Mr. WEBB. In other words, knock off all the old BEOGS and SEOGS?

Senator STEVENS. Everything goes out of the door and you have the GI bill and you serve or you do not get any.

Very interesting question, by the way. Think about it.

Any more questions?

We invite you to stop by if you want to stop by for the little reception we have for Dwight Dyer.

SUBMITTED QUESTIONS

The committee has additional questions which will require your response for the record. They will be inserted at this point.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR D'AMATO

ELIMINATION OF GI BILL BENEFITS

QUESTION: The Administration is planning to propose the elimination, effective this fall, of GI Benefits for Guard and Reserve Forces. In light of increased reliance on the reserves, could you describe the effect this action will have on our reserves, especially in recruiting?

ANSWER: It is too early to evaluate the effect termination of the New GI Bill will have on reserve forces recruiting. It is obviously an attractive program for the Selected Reserve, particularly when used in tandem with targeted Selected Reserve incentives. It is, however, a major cost element in the total recruiting and retention program of the reserve components. At this point, we have no data that indicate the utility of the GI Bill with respect to the hard-to-man units and skills at which our bonus programs are targeted.

QUESTIONS SUBMITTED BY SENATOR STENNIS

SUPPLEMENTAL AUTHORIZATION

QUESTION: Please tell this Committee how important it is to the Guard and Reserve to receive this $843.4 million? What types of equipment would be bought with this money, and how would this affect readiness?

ANSWER: The FY 1986 Appropriation act (P.L. 99-190) provided funding levels that exceeded the FY 1986 Authorization Act (P.L. 99-145) authorized funding levels. Accordingly, a supplemental authorization is required to obligate/expend the funds appropriated and is assumed for the purpose of the answers to these questions. An assessment of importance of receiving the additional authorization required for the expenditure of these funds and a listing of the equipment to be procured are outlined below by Reserve Component.

Army National Guard:

The importance of receiving the additional authorization for the funds appropriated to the ARNG cannot be overstated. The funds would be used to procure equipment to fill readiness inhibiting shortages primarily in early deploying, high priority ARNG units. The proposed list of equipment to be procured with this appropriation was developed using unit commanders' comments detailing the most critical shortages affecting their units ability to deploy. Types of equipment which would be procured include M198 Towed Howitzers, 5 Ton Cargo Trucks, Improved TOW Vehicle Conversion Kits, Communications equipment, Armored Personnel Carriers, Command Post Carriers, Engineering equipment, and Combat Service Support equipment. Funding would also be provided for a Service Life Extension Program for the ARNG medium tactical truck fleet. In all cases these items are essential to the ability of the units to which they will be distributed to perform their assigned operational missions and tasks. Additional readiness information is contained in following paragraphs.

Improved High Frequency Radio (IHFR) sets: FY 1986 procurement will enable the Army National Guard (ARNG) to provide its high priority/early deploying Special Forces and Scout Group Units with modern communications equipment, capable of operating in a secure environment on a sophisticated electronic battlefield.

M113A3, Armored Personnel Carrier: Procurement for FY 1986 will equip 77 units to a C-3 level of fill and at the same time raise the overall C-rating to a C-3 for that item of equipment.

M923, Five Ton, Cargo Truck: Acquisition for FY 1986 will increase the ARNG on-hand quantities to a 44 percent level of fill.

M198, 155mm Towed Howitzer: Procurement will equip four artillery battalions with a modern weapons system and at the same time increase the combat capability of the receiving units. It will also fill the current authorized Force Structure (20 battalions) with 18 gun batteries.

M901A1, Improved TOW Conversion Kit: Procurement will equip 30 units with Improved TOW Vehicles (ITVs) and at the same time provide hardened vehicle protection for the soldiers.

M577, Command Post Carrier. Procurement will equip 101 units to a C-2 level of fill and simultaneously raise the overall Guard fill to the same level. In addition, the command post carriers will provide a hardened capability which presently does not exist.

KG-84 Communications Security Equipment (COMSEC): Procurement will provide the necessary secure command and control equipment required for high priority/early deploying ARNG units to operate on a modern electronic battlefield.

AN/PRC-126D, Small Unit Transceiver: Procurement will satisfy ARNG requirements for this type of radio when present on-hand substitute items are taken into consideration.

Single Channel Ground Airborne Radio System (SINCGARS): Procurement will enable the ARNG to equip one division and one brigade with a modern communications radio system, capable of operating and providing secure command and control communications on a highly electronic battlefield.

15,000 Foot Well Drilling Machines: Procurement will resource 100 percent of the ARNG's requirement. (The Guard's present requirement is for eight well drilling machines with none on hand).

Tank and Pump Unit, Liquid dispensing: Procurement will resource ARNG units to a C-2 level of fill.

Laundry Unit, Trailer Mounted. Procurement will equip ARNG units to a C-1 level of fill.

Army Reserve:

It is extremely important that these funds be authorized for the Army Reserve in order to continue the program of improving equipment readiness in early deploying units. Tentative procurement plans provide for the acquisition of sufficient equipment to fill mission essential requirements to C-3 (65%) level of fill in all of the high priority Army Reserve units. The Army Reserve's share of the $843.4 million would fill the mission essential requirements of approximately 600 high priority Reserve units. Some examples of equipment which would be procured are as follows:

Type of Equipment	Quantity
Well Drilling Machines	5
Generator Sets, Diesel	140
Petroleum Test Kit, AVN	34
Tool Outfits, Pioneer	20
Electrical Shops, Various	268
Night Vision Devices	4545
Wheel Mounted Cranes	15
Scoop Loaders, 2-1/2 CU YD	86
Semi-Trailers, Fuel	745
Cargo Trucks	800
Speech Security Equipment	6579
Truck SLEP	

Naval Reserve:

The types of equipment to be procured are summarized below:

Tactical Towed Array Sonar	$12.0M
Combat Search and Rescue Aircraft	10.0M*
Aircraft Modifications	28.7M
Mobile Inshore Undersea Warfare Equipment (Civil Engineering Support Equipment and Acoustic Processors)	4.3M
TOTAL	$55.0M

*Discretionary dollars added to assist in funding purchase of aircraft, initial spares and site support equipment for 4 FY 1986 aircraft authorized and appropriated in the National Guard and Reserve Equipment Appropriation.

This equipment will have a positive impact on the operational capability of the Naval Reserve. For example, the upgrading of FFG-7 class ships with the AN/SQR-19 portion of the SQQ-89 Tactical Towed Array Sonar (TACTAS) will provide these ships with a capability to meet the future ASW threat. The allocation of funds for four Combat Search and Rescue (CSAR) helicopters will provide the Navy with badly needed modern aircraft to perform this essential mission. The procurement of equipment for P-3 aircraft modernization will provide much needed operational fleet equivalent equipment to the Naval Reserve to enable these aircraft to more effectively prosecute the modern submarine threat, and our C-9 aircraft will receive a weather radar upgrade to improve the safety of their operations. The mobility and the operational effectiveness of the Mobile Inshore Undersea Warfare (MIUW) units will increase with the receipt of needed rolling stock and modernization of their acoustic processors.

Air National Guard:

Funding of miscellaneous equipment at the Authorized level of $30.0 million does not allow the Air National Guard to continue the modernization/enhancement of communication units and complete the training device procurement directed by the

Congress. Details follow on planned use of additional $45.0 million appropriation.

Air Combat Maneuvering System ($8.2 million): The purchase of computers, display devices, transmitters and receivers for installation at the ANG Gulfport Mississippi Field Training Site will require $25.0 million. Similar systems are currently being used by the active Air Force and U.S. Navy at several locations worldwide. The system provides realistic real-time combat training for fighter pilots. Without supplemental authorization, only $16.8 million is available of the $25.0 million required. This will result in no contract in FY 1986, since there is no money programmed in FY 1987. Without a new authorization add and appropriations add, installation and activation of ACMI at Gulfport will be eliminated.

Troposcatter (wide-band) radio terminals ($13.5 million): The entire FY 1986 requirement for combat-essential tactical communications equipment for ANG Combat Information Systems units will not be purchased without supplemental authorization. These wide-band radios assure clear signal reception in the expected combat environment. They replace obsolete, unsupportable equipment currently used.

TSQ-111 Technical Controls ($9.0 million): The entire purchase will be deferred without supplemental authorization. These units are needed to replace pre-1970 vintage equipment which currently represents the hub of tactical communication sites. These devices are essential to permit communication with the standard Air Force digital communications centers.

A-7/F-4 Video Recorder Systems ($2.3 million): The entire requirement will be deferred without supplemental authorization. Video recorders for A-7 and F-4 aircraft are a training photographic evidence of instruments and aircrew combat maneuvers. Currently some aircraft have no feed back capability and others have an obsolete wet film capability. Capability is also needed for combat.

AIM-9L Capability ($2.6 million): This purchase will be eliminated without supplemental authorization. The purchase provides all ANG RF-4Cs with the capability to carry and fire the AIM-9L missile. The RF-4C is the only USAF fighter aircraft without this vital self-defense capability. This purchase also permits necessary equipment (adapters) to be used with the AIM-9L in RF-4C, A-7 and F-4 aircraft. Additionally, we must purchase the technical data and Time Compliance Tech order information from the manufacturer to assure proper maintenance of the equipment. This capability enhances the survivability of these aircraft in a hostile environment as well as their combat capability.

A-7 Night Vision Goggles ($3.7 million): This purchase will be eliminated without this supplemental authorization. This purchase procures currently available night vision goggles for the 3 squadrons equipped with A-7 Forward Looking Infrared (FLIR) low altitude night attack (LANA) aircraft as previously provided by the Congress. Night vision goggles allow an A-7 LANA pilot to fly lower and safer because of improved vision. LANA mission tasking requires low level weapons delivery to avoid enemy sensors. This device makes the A-7 aircraft a much better night attack weapons system. Enhanced combat capability and improved weapons delivery result from this purchase.

Combat Support Equipment ($5.7 million): Purchase of several different equipment items for ANG aircraft maintenance, combat information systems, food service, and medical units will be deferred without supplemental authorization. Purchase of battle damage repair kits enables a quick-fix to damaged aircraft operating in a combat zone. This quick-fix permits a fast turn around and relaunch of combat aircraft that would otherwise have to be removed to rear areas for repair or grounded. Without the purchase of spectrum analyzers, ANG Engineering Installation units will be unable to install and modify state-of-the-art electronic equipment entering the Air Force and ANG inventory. Some ANG medical units need to purchase X-ray machines, and optometry systems to maintain medical readiness. Portable field kitchens are needed at each ANG unit and ANG permanent field training sites to meet mobility requirements.

Modification of A-7 Air National Guard Aircraft ($56.6 million): Funding was provided in the Air Force Aircraft Procurement Appropriation (3010) for modification of ANG A-7 aircraft to modernize the aircraft with the ring laser gyro navigation system, a digital computer, and adaptive power supply. Without supplemental authorization we will be unable to contract for this modification. The existing inertial navigation system is old and has become hard to maintain because of parts shortages. In FY 1982-84 Congress authorized and appropriated funds for three ANG A-7 squadrons to be equipped with Forward Looking Infrared Radar (FLIR) Low Altitude Night Attack (LANA) capability. Funding in FY 1986 also permits installation of the ring laser gyro into these three squadrons at the time of the FLIR/LANA modification and saves a second costly visit to the depot. The Appropriations Act simply added money for already approved AF programs one year earlier. Therefore, the AF has already moved money out of FY 1987 and FY 1988, assuming that the changes will be authorized. That means if authorization is not forthcoming, the INS program will no longer be fully funded and will not be able to start.

Modification of F/RF-4 Air National Guard and Air Force Reserve Aircraft ($15.9 million): Funding was provided in the Air Force Aircraft Procurement Appropriation (3010) for modification of 210 F-4D special capability aircraft to add a new inertial navigation system, and to provide 80 ANG and AFRES F-4E aircraft with a new heads up display (HUD) unit. The F-4D inertial navigation system (INS) modification is the continuance of an FY 1984 and FY 1985 congressionally added program to increase the combat capability of ANG and AFRES aircraft. Installing a new heads up display in ANG and AFRES F-4E aircraft is cheaper if done concurrently with the INS modification which was authorized and appropriated. Significant cost increases result from having to bring the airplanes back to the depot for HUD modification in another year. The Appropriations Act simply added money for already approved AF programs one year earlier. Therefore, the AF has already moved money out of FY 1987 and FY 1988, assuming that the changes will be authorized. That means if authorization is not forthcoming, the INS program will no longer be fully funded and leave a gap in FY 1986 and the HUD program will not be able to start.

Air Force Reserve:

Last year's Department of Defense Authorization Bill provided $120 million to the Air Force Reserve for procurement of six C-130H aircraft. The Appropriations Committee added $30 million for an additional two C-130Hs and $30 million for miscellaneous equipment.

The $30 million specified for procurement of two additional C-130Hs is essential to provide full funding for a standard Reserve airlift squadron of eight aircraft. Wartime planning is based on an 8-aircraft squadron, and eight C-130As will be retired to be replaced with C-130Hs. If the additional $30 million is not authorized, the AFR will be able to procure only six C-130Hs. This would reduce wartime capability through a reduction in airlift capacity, aircrews, and maintenance personnel.

The $30 million for miscellaneous equipment has been programmed to fill existing shortages in machine guns and grenade launchers, special purpose vehicles, and communications equipment for weapon system security flights, ground communications equipment for information system squadrons, and powered and nonpowered aircraft support equipment for aircraft-equipped units. The equipment will increase readiness of the affected units.

Marine Corps Reserve:

Passage of this bill will provide the Marine Corps Reserve an additional $10 million above the $20 million presently authorized for miscellaneous equipment. These funds will permit the Marine Corps to procure training devices, such as, marksmanship trainers, indirect fire and precision gunnery firing trainers, and fault isolation trainers. These procurements will enhance training readiness by providing the capability to perform meaningful skill progression training on drill weekends.

EQUIPMENT FOR ARNG AND USAR UNITS

QUESTION. The FY 1987 DOD National Guard and Reserve Equipment Report provides data on the dollar value of equipment scheduled for distribution to the Reserve Components at the beginning of FY 1985 and the actual distribution of the programmed equipment that took place.

	Percent of 1985 Program Achieved (Ref. Pages B1-2)
Air Force Reserve	94.0
Air National Guard	91.9
Marine Corps Reserve	89.3
Naval Reserve	82.7
Army National Guard	65.1
Army Reserve	25.3
Average DOD-wide	77.4

Above-average rates of distribution were achieved by the Air Force Reserve (94%), Air National Guard (92%), Marine Corps Reserve (89%), and Naval Reserve (83%). The poorest performances were achieved by the two Army Reserve Components--the Army

National Guard (65%) and the Army Reserve (25%). Can you tell me why the Army has done so poorly in distributing equipment to its Reserve Components?

ANSWER. The Army has done an outstanding job in providing equipment to the Reserve Components. Actual FY 85 distribution to the Reserve Components was over 1.5 billion dollars. This distribution exceeded our projection of 1.4 billion dollars and represents a 58% increase over FY 84 distribution of .946 billion dollars. FY 84 distribution more than doubled from the FY 83 distribution of .465 billion dollars. The table above reflects only selected items of equipment (3.4% of total items) and cannot be used in isolation. Periodic changes in requirements accounted for many unprogrammed deliveries. It must be noted that although the programmed Force Readiness Report deliveries to the Guard and Reserve reflected in the table above, were met with limited success, unprogrammed deliveries raised the overall performance data to 91.1% for the Army National Guard and 42.1% for the Army Reserve. The Army continues the policy of equipping units on a "First to Fight" basis. Based upon the upward trend line of equipment distribution to the Reserve Components, it is evident our policy remains very effective.

NEW MISSIONS FOR THE GUARD AND RESERVE

QUESTION: Mr. Secretary, the last several years have seen our National Guard and Reserve Forces persistently receiving a very small percentage (roughly 6 percent) of the overall Defense budget, even as their roles and missions are expanding. In addition, manpower levels of the Guard and Reserve Forces continue to increase—the budget request for Fiscal Year 1987 strengths proposed are 52,000 above the levels approved in Fiscal Year 1986.

How will these extra personnel be utilized and are there additional responsibilities being delegated to the Guard and Reserve that require this increase in manpower?

ANSWER: These extra personnel reflect the increased reliance on the Guard and Reserve and are possible because of improved retention and vigorous recruiting by the Reserve components. These increases will be utilized in two ways: (1) to fill current requirements in established units, and (2) to fill positions brought about by force modernization and expansion of the Reserve components force structure. Responsibilities delegated to the Reserve components continue to increase as their strength increases, most significantly in the areas of tactical/mobility and support activities.

QUESTION: What new missions have the Guard and Reserve been delegated and are there plans for additional missions to be given to them?

ANSWER: The Reserve components continue to increase their participation in the Total Force Structure during Fiscal Year 1987 by accepting new missions and by planning future force structure to accept additional missions. Mission transfers for the Army Guard and Reserve include a combat support hospital, two ambulance companies, a medical clearing company, two personnel and administrative battalion headquarters detachments, and a signal cable company. The Naval Reserve will increase participation in aviation, surface combatant, mine countermeasure, and fleet support. The Marine Corps Reserve will reorganize its Reserve infantry battalions, will activate a light armored vehicle battalion, four TOW platoons, and will receive the M198 towed howitzer for its artillery organization. The Air Guard and Reserve will expand the mission of tactical forces to 12.4 wing equivalents and receive 12 C-141 aircraft from the active airlift force in Fiscal Year 1987.

QUESTION: Please provide for the record the amount of money provided to the Guard and Reserve over the past five fiscal years and how this money has been spent. (Please be specific on the number and kinds of equipment procured.) In addition, what has been the impact on readiness and capability from the procurement of this equipment?

ANSWER: Prior to FY 1985, the procurement budget request portrayed only total force requirements by Service. Thus, new procurement funding for the National Guard and Reserve was not separately identified, except in a very limited and general sense prior to the FY 1985 budget request. The listings below, by Reserve Component, portray identified quantities and line items of equipment provided the Guard and Reserve from funds appropriated by the Congress specifically for the Reserve Component. The availability of these funds has significantly improved readiness and capability in all Reserve Components. Availability of these funds has permitted old equipment to be replaced by state-of-the-art equipment and shortages of critical items to be reduced and, in some cases, eliminated. Some specific examples of the impact of this funding follow. Within the Army Reserve, since FY 1981 pacing item readiness (items essential to an organization's capability to perform its mission) has increased from 44.1% to 62.8% at a time when the number of reporting units was rising from 182 to 223. Within the Army National Guard 131 units have received equipment procured from dedicated funds. Of these units 40% are now rated C-3 (a deployable level for equipment on-hand readiness). Within the Navy, the largest impact has been on Reserve Naval Construction Force (RNCF) and Reserve Cargo Handling Battalions (RCHB). Five of 19 Reserve Naval Construction Battalions will be fully outfitted by the end of the FY 1986 funded delivery period. All RCNF air detachments and six RCHBs designated for Maritime Prepositioned Ships will also be outfitted. Funding for the Marine Corps Reserve has been used to speed up modernization, reduce deficiencies and improve the capability of the Marine Corps Reserve to support the Active Force in both peacetime and upon mobilization. The Air National Guard has replaced very old equipment, particularly communications equipment, medical equipment, navigational equipment and security equipment, with state-of-the-art equipment already deployed in comparable Active duty units. Air Force Reserve fighter crews will now have the opportunity to train with the latest state-of-the-art ECM technology; the Instrument Landing System will provide the balance of the USAFR fleet with the capability of landing in all kinds of weather; modifications to and procurements for AC-130A gunships will provide them with the capability of detecting and countering the threat from electronic warfare; and many units went from a non-combat ready to a combat ready status through the purchase of Chemical-Biological Warfare equipment.

Army National Guard

FY 1981
$69.5 MILLION-FENCED

QTY	ITEM
17	AH-1S Helicopters
19	AN/TRC 152 Radio Terminals
48	AN/TRC 138 Radio Repeaters
38	AN/TRC 151 Radio Terminals

FY 1982
$50 MILLION-DEDICATED

QTY	ITEM
38	M60A1 AVLBs
36	155MM Self-Propelled Howitzers
42	Mortar Carriers, M106A2s
27	Command Post Carriers
23	Shelter, Tac, 2 Sided, Expandable
21	Shelter, Tac, 1 Sided, Expandable
88	Tent, TEMPR, 8 Spec, Med
5	Tent, TEMPR, 8 Sec, Sur
18	Tent, TEMPR, 2 Sec, Med
24	Tent, TEMPR, 2 Sec, CMS

($100.25 MILLION-FENCED)

QTY	ITEM
176	M923 Cargo Trucks, 5 T, DS
26	DAS 3 (Model B) Computers
6	C-12 Aircraft
12	Cobra Hel AH-1S (Mod)

FY 1983
($50 MILLION DEDICATED)

QTY	ITEM
116	M925 5 Ton Cargo Trucks
100	Armored Personnel Carriers
30	AN/TCC-65 Terminal Telephone Sets
20	AN/TCC-73(V)1 Terminal Tele Sets
11	AN/TCC-174 Radio Repeater Sets
3	AN/TRC-173 Radio Terminal Sets
240	AN/GRC-213 IHFR RDO Sets
61	AN/GRC-193 IHFR RDO Sets
2249	Antenna Group, OE-254
938	Power Supplies PP-6224
89	Oscilloscopes OS-261 C/U

($63.4 MILLION-FENCED)

QTY	ITEM
6	C12 Aircraft
11	Cobra Hel AH-1S Mods

FY 1984

($100 MILLION DEDICATED)

QTY	ITEM
4	Shelter, Tac, 1 Sided, Exp
25	Tent, TEMPER, 8 Sec, Medical
3	Tent, TEMPER, 8 Sec, Surgical
13	Tent, TEMPER, 2 Sec, Medical
2	Tent, TEMPER, 2 Sec, CMS
11	AN/TCC-73(V)1 Terminal Tele Sets
27	AN/TCC-65 Terminal Telephone Sets
11	AN/TRC-174 Radio Repeater Sets
18	AN/TRC-173 Radio Terminal Setds
17	AN/PRC-104 IHFR RDO Sets
126	AN/GRC-213 IHFR RDO Sets
116	AN/GRC-193 IHFR RDO Sets
14	AN/TRC-138A Radio Repeater Sets
236	AN/UGC-74A Teletypwriter Sets
501	AN/PRM-34 Radio Test Sets
1624	AN/PRC-126 Small Unit Transceivers
188	5000 Gallon Fuel Tankers
200	Trk 1 1/4T M1028 (CUCV)
1825	Night Vision Sights AN/PVS-4
1604	Night Vision Sights AN/PVS-5
5	Air Traffic Ctl Centers AN/TSW-7A
17	Landing Control Centers AN/TSQ-71B
2	Mutiple Integrated Laser Equip Set (MILES)
7	IO-720-A1B Engines for U8F Aircraft

($56.3 MILLION-FENCED)

QTY	ITEM
22	MILES Company Sets
1	MILES Platoon Set
29	Cobra Modifications AH-1G to AH-1S

FY 1985

($150 MILLION-DEDICATED)

QTY	ITEM
233	Elect Sh Shltr, AN/ASM-146
28	Elect Sh Shltr, AN/ASM-147B
64	Elect Sh Shltr, AN/ASM-189
116	Trk Cgo, 5 T, M923
36	Howitzer, Med Tow, 155MM M198
43	Armored Pers Carrier, M113A3
51	Improved TOW Convers Kits
20	TRITAC Rdo Rptr, AN/TRC-174
3	TRITAC Cir Swtch, AN/TTC-39A
8	TROPO Rdo, AN/TRC-170(V)2
475	Trk, CUCV, Cgo, M1008
1509	Trk, CUCV, Util, M1009
39	Trk, CUCV, Ambul, M1010
229	Trk, CUCV, M1028

($313.8 MILLION-FENCED)

QTY	ITEM
6	C-12 Aircraft
18	AH-64 Attack Helicopter
8	UH-60 Helicopter
29	AH-1G to AH-1S
12	Chaparral and ASIOE
138	Improved TOW Conversion Kits

Army Reserve

FY 1981
($25 MILLION-FENCED)

QTY	ITEM
46	AM-USM 459
6	AN/URM 206
82	AN/PVS 5
16	AN/TVS 5
55	AN/PVS 4
8	AN/GRC 106A
4	AN/GRC 160
68	AN/PRC 77
4	AN/VRC 46
31	AN/VRC 47
108	AN/GRA 39 BMDL
69	AN/GRC 142
11	AN/TRC 138LP
300	TD/206 B/G
88	AN/UGC 74
62	DETECT SET
30	FILTER SEP
16	FSSP
262	GEN 3KW
12	HOSE 4 IN
80	PUMP ASSY
105	RAMP 16K
37	REEFER 10K cf
5	REEFER 4K cf
12	SHOP EQUIP ELECT
13	FL 10K
48	TK&PUMP UNIT
138	TANK FAB 10K
63	TANK FAB 50K
4	THEODOLITE, .002m
6	THEO 0.2M

FY 1982
($134.75 MILLION-FENCED)

QTY	ITEM
10	INSTR RPR M8A3
420	SEMITLR 5KGAL
300	SEMITLR 221/2T
600	SEMITLR 34T
47	SEMITLR 5KGAL
307	TRK TRACTR 10T
54	TLR CRGO 1 1/2T
80	TRK 5T DPSIDE
47	TRK 5T DPSIDE W/W
7	TRK DMP 5T
100	TRK TRAC 5T
75	TRK VAN 5T
57	TRK WKR 5T W/W
161	254/GRC ANTN
22	BTRY CHGR PP1659
101	IM93 CHGR PP1578
57	PWR SUP PP2953
505	DOSIMETER IM93
10	AN/GRC 160

284	AN/GRA 39 BMDL
6	AN/TRC 138LP
65	CT SYS AN/TNH23
16	TERM AN/TCC-65
194	FLD TEL TA-312
1	ITASC
4	AC 18KBTU
8	AIR COND, 18K, BTU
4	AC 36KBTU
93	ALRM M-8
3	CRANE 140T
6	DVG OPN CIRT
2	DVG PHOTO SPT
1	SCUBA TYP A
1	SCUBA TYP B
6	DVG SUIT IND
1	CMPSR 250CFM
2	CRANE 40T
4	DVG 2P 120FT
70	FILTER SEP
5	FARE
16	FSSP
13	GEN SET DSL
9	GEN SET DSL
1	GRADER 6x4
9	LOADER 2 1/1 TON
2	PRNTG PLT
194	PUMP ASSY
8	RAMP 16K
21	FL 50K
57	FL 10K
40	FL 4K RT LM
108	TANK FAB 10K
38	FL 4KLB ELEC
35	FL 4K PT

FY 1983
($15 MILLION-DEDICATED)

QTY	ITEM
1700	254/GRC ANTN
51	AB-621G
40	PUB AD ST AN/UIH-6
204	AN/GRC 160
385	AN/PRC 77
1	ITASC
15	CLTH REP SHOP
50	PWR PLT AN/MJQ-10
4	PROPELLING UNIT
12	SHOP EQUIP ELECT
8	TOOL OUFIT HYDR
5	FL 6000LB ELEC
21	WELD SHP TLR MTD

FY 1984
($15.0 MILLION-FENCED)

QTY	ITEM
74	SEMITLR 5KGAL
12	TRK 5T DPSIDE
48	TRK TRAC 5T

52	TD-1233
52	TD-1234
602	AN/VRC 46
187	AN/VRC 47
4	AN/VRC 48
15	AN/VRC-49
35	TD-1218
3	AN/TRC-173
6	AN/TRC-174
2	AN/TRC 138LP
40	TD-1219
1	AN/TRC-175
8	TS-3647
72	AN/UNH-16A
24	GEN SET DSL

FY 1985
($150 MILLION-DEDICATED)

QTY	ITEM
2	INSTR RPR M8A3
14	SEMITLR 221/2T
1	SEMI TRL
260	TRK, CUCV, UTIL, M1009
769	TRK, CUCV, CGO, M1008
10	TRK HMMWV
2	TRK WRECKER
67	TRK 5T DPSIDE W/W
4	TRK TRAC 5T
207	APC M113A3
8	ADAPTER HARDWARE
3	ANALYZER
6	AN/TTC-39
3	DISTORTION ANALYZER
16	SIG GEN
1	GRD SPT EQUIP
16	ELECT SHOP SET
5	ELECT SHOP
2	ELECT SHOP
1	ELECT SHOP
2	ELECT SHOP
8	ELECT SHOP
5	INSTL KIT
8	MODULATION METER
16	OSCILLOSCOPE
2	PLUG IN UNIT
3	PLUG IN UNIT
8	POWER SUPPLY
9	POWER SUPPLY
2	RADIO (AN/URM-200)
2	AN/VRC 46
2	REPR FACILITY
32	AN/TRC-174
17	SIG GEN
8	SIG GEN
10	SIG GEN
6	SIG GEN
6	TOOL KIT
2	TEST FACILITY
1	TEST SET

15	TEST SET
3	SPLICING KIT
7	TEST SET RADAR
5	TEST SET RANS
22	VOLTMETER AN/GSM-64
36	AN/UYK-71, MICROFIX
15	RADIO TEST SET
6	TEST SET SIMPLIFY
7	AIR COND, 18K, BTU
1	CRANE WHLD 7 1/2 T
8	TEST SET ELECT
9	GEN SET DSL
8	GEN SET DSL
13	GEN SET DSL
2	GEN SET DSL
12	HOSE 4 IN
1	SHOP EQUIP ELECT
1	SHOP EQUIP
1	SHOP EQUIP
13	TEST SET
44	SHOP SET
16	SHOP SET ELE
9	TEST SET ELECT
13	TEST SET POS AZ
4	TEST SET COMP
1	THEODOLITE, .002m
8	WELDING SHOP
10	WIRELINE ADAPTER
1	TOOL SET VEH
8	GEN SET DSL
1	TRK FL

Marine Corps Reserve

FY 1982
($64 MILLION-FENCED)

QTY	ITEM
4	KC-130T

FY 1983
($15 MILLION-DEDICATED)

QTY	ITEM
46	Switchboard, SB-3614
140	Telephone Set, TA-838
41	Maintenance Kit, MK-1823
63	Radio Set, MRC-138
164	Radio Set, PRC-104
5	Truck, Fire/Rescue
50	Truck, HMMWV
68	Truck, Cargo 5-Ton
22	Refrigeration Unit
3	OE-334 Antenna Coupler

FY 1983
($37.9 MILLION-FENCED)

QTY	ITEM
2	KC-130T

FY 1984
($43.1 MILLION-FENCED)

QTY	ITEM
2	KC-130T

FY 1985
($30 MILLION-DEDICATED)

QTY	ITEM
50	Truck, Wrecker 5-Ton
103	Truck, Cargo 5-Ton
6000	Pistol, 9MM
165	PRC-113/VRC-83
2	Meteorological Data Sys
20	Generator, 60KW-400HZ
20	Tractor, FT
3	Tractor, RT, Wheeled
8	Generator, 100KW-60HZ
2	Generator, 10KW-60HWZ
1153	Squad Level Radio, PRC-68
196	Telephone Set, TA-838
6	Reverse Osmosis
668,000 rds	Ammunition, 9MM

($48 MILLION-FENCED)

QTY	ITEM
2	KC-130T

Naval Reserve

FY 1981
($54 MILLION-FENCED)

QTY	ITEM
2	C-9B Aircraft
-	TACNAVMOD Kits For P-3

FY 1983
($15 MILLION-DEDICATED)

QTY	ITEM
1	C-9B Aircraft, Refurbishment, Spares, Support Equipment, etc.

FY 1984
($51 MILLION-DEDICATED)

QTY	ITEM
5	C-9B Aircraft

($44.7 MILLION-FENCED)

QTY	ITEM
17	TACNAVMOD Kits for P-3

FY 1985
($20 MILLION-DEDICATED)

QTY	ITEM
3	Truck, Stake, 15T, 6x6, DED
8	Crane, Truck, MTD, For 8'x8'x20'
-	Cargo Containers
35	Truck, Fork 10K-12K LB, DED, RT Tool Kits, Spares, etc.

($87.5 MILLION-FENCED)

QTY	ITEM
2	HH-60
5	P3A Acoustic Processor Mods
25	F-14 Upgrade Mods

Air National Guard

FY 1981
($221.1 MILLION-FENCED)

QTY	ITEM
6	A-7D
-	KC-135 Reengining Mods
-	F/RF-4 Smokeless Engine Mods

FY 1982
($366.6 MILLION-FENCED)

QTY	ITEM
-	KC-135 Reengining Mods
8	C-130H
20	F-16
-	F-4 Smokeless Engine Mods

FY 1983
($15 MILLION-DEDICATED)

QTY	ITEM
3	C-22 Aircraft
2	Tactical Control Units
35	Auto Tel Switchboards
21	Maint Accessory Kits
18	A-10 Navigation Equipment (ILS-Retorfit)
105	Micro-Computers

FY 1983
($467.8 MILLION-FENCED)

QTY	ITEM
4	C-130H
4	C-130H (SKI)
--	KC-135 Reengining Mods
--	A-7 Mods
--	F/RF-4 Mods

FY 1984
($25 MILLION-DEDICATED)

QTY	ITEM
1	C-22 Aircraft
197	Tac Tel Systems & Spares
19	Comm Simulators
71	Hi Freq Modems
391	AIM 7/9 Test & Handling Kits
706	Test Bench & Maint Sets
2	Auxiliary Fuel Tank Mod Kits
2	170,000 lb. Grossweight Mod Kits
78	Wk Radar Units
18	A-10 ILS Systems
-	AIM-9L Equipment
1	CPU

56	CPU Terminals
43	Micro Computers
40	ANG MIS Terminals
-	Fighter Weapons Office
296	Multiple Integrated Laser Engagement System

FY 1984
($708.8 MILLION-FENCED)

QTY	ITEM
24	F-16
6	C-12F
-	F/RF-4 INS Mods
-	A-7 FLIR Mods
32	KC-135 Reengining Mods
8	C-130H
-	F-4D Smoke Abatement Mods
-	F-4 AIM-9L Launcher Mods

FY 1985
($20 MILLION-DEDICATED)

QTY	ITEM
4	Hi Freq Radios
1	TM-1B Simulator
8	Replacement Systems for TAC Air Control Units
1500	Assorted Security Police Weapons & Defense Equipment
39	Spectrum Analyzers
61	Electronic Counters
-	Communications Test Equipment
1	Alpha Calibrator
2	Defibrillators
1	Electrocardiograph
1	Centrifuge
1	Mission Support Aircraft Technical Manual
2	Installations Drawings for C-22

FY 1985
($276.0 MILLION-FENCED)

QTY	ITEM
6	C-12J
8	C-130H
2	C-131 Mods
26	A-7D FLIR Mods
-	Smokeless Engine & Off-Boresight AIM-9L Mods
-	C-5 Support Equipment/Spares

Air Force Reserve

FY 1981
($70.8 MILLION-FENCED)

QTY	ITEM
6	C-130H

FY 1983
($15 MILLION-DEDICATED)

QTY	ITEM
10	Electronic Countermeasures Pods
30	A-10 Instrument Landing Systems
-	Chemical Biological Warfare Equipment
-	Miscellaneous Equipment

FY 1984
($21 MILLION-FENCED)

QTY	ITEM
2	C-130H

FY 1985
($10 MILLION-DEDICATED)

QTY	ITEM
10	Infrared Jamming Pods
10	ALE-40 Flare Chaff Dispenser
10	ALR-69 Radar Warning Receiver
-	Miscellaneous Equipment

FY 1985
($756 MILLION-FENCED)

QTY	ITEM
30	F-16C/D
8	C-130H
24	KC-135 Reengining Mods
-	F-4D Upgrade Mods
-	F/RF4 Smokeless Engine & Off-Boresight AIM-9L Mods

GUARD/RESERVE EXERCISE PARTICIPATION

QUESTION: I am aware that the Guard and Reserve are involved in many training exercises held throughout the world. Quite frankly, I have been informed in the past that many of the Guard and Reserve units outperform the Regulars in corresponding types of military units. Please provide for the record any recent exercises the Guard and Reserve have been involved in and any information you may have which compares their performance to that of the active duty forces.

ANSWER: The Reserve components are a true partner in the Total Force. Today more than ever before in history, Reserve and National Guard units are participating in joint and unilateral exercises throughout the world. In 1985 over 67,000 Reserve component personnel participated in a major exercise. Reserve component units have participated in exercises such as REFORGER (Germany), Team Spirit (Korea), Bright Star (Southwest Asia), Ocean Venture (Caribbean), Blazing Trails (Panama/Honduras), Bold Eagle (Florida), Vigilant Overview (US, Canada, United Kingdom, Australia), and Port Call (US). These exercises are all examples of the Reserve and Active component interface being done in training.

Training programs are developed to one standard for the Reserve and Active components. The Services require the Reserve components to demonstrate their readiness proficiency by performing their assigned wartime mission, under training conditions, to the same standard as the Active component. The level of training readiness a unit attains is a function of performance against the Service standards for the mission, task, being evaluated. The proficiency of the US Air Reserve Forces (Reserve and Air National Guard) was demonstrated by winning the:

- Team Gunnery, Maintenance, Munitions, and Arrival Time categories in the 1985 TAC Worldwide Gunsmoke competition.
- Overall airlift, C-141 aircrew, engines running off-load, and C-130 short field landings categories in 1985 MAC worldwide Volant Rodeo competition.
- KC-135 air refueling unit, celestial navigation, and C-10 refueling unit categories in the 1985 SAC Bomb and Navigation competition.

QUESTIONS SUBMITTED BY SENATOR PROXMIRE

ANG F-106 AND F-4S

Question: General Conaway, it appears to me that the ANG, charged with providing the preponderance of CONUS Air Defense is, to say the least, ill-equipped with F-106 and older versions of the F-4 aircraft. Do you agree with this?

Answer: Yes. The F-106 and older F-4s have performed admirably as the backbone of the air defense force for many years. They are, however, clearly approaching technological obsolesence. The F-106 aircraft are programmed to be replaced in the near future.

COMPETITION FOR THE CONUS AIR DEFENSE MISSION

QUESTION: General Conaway, the USAF is in the process of conducting a competition for the CONUS Air Defense Mission. I have heard that the National Guard Association of the United States (NGAUS) has evaluated the F-16 and F-20 to include having ANG pilots fly the aircraft. Is this true and, if so, did the NGAUS come to any conclusions?

ANSWER: Yes, ANG pilots have evaluated both the F-16 and F-20, and the NGAUS Fighter Task Force Report is available on request. The report indicates favorable impressions for both aircraft. However, no tactical evaluations against realistic targets were flown.

AIR DEFENSE COMPETITION

QUESTION: Considering that the ANG will operate a preponderance of the CONUS Air Defense Squadrons, will the ANG be involved in the Air Defense Competition evaluation?

ANSWER: Yes, ANG personnel appointed by the Director of the Air National Guard will be serving at all levels of the Air Defense Competition Source Selection Process.

MILWAUKEE WISCONSIN AIR RESERVE UNIT

QUESTION: General Gill, the Milwaukee Wisconsin Air Reserve unit has C-130A cargo aircraft -- a plane which has been retired by our allies as too old, too expensive to maintain, and unsafe. When might the Milwaukee unit expect to obtain a later model of the C-130A or another aircraft?

ANSWER: The Air Force plan, as outlined in the Airlift Master Plan submitted to the Congress April 17, 1984, is to upgrade Air Reserve Force units as the C-17 is procured in the 1990s. A primary goal of this plan is to replace the C-130A aircraft; therefore, the Milwaukee unit will be one of the Air Force Reserve units considered for later model aircraft. As the C-17 is delivered, C-130As will be replaced by the C-17, newer C-130 aircraft from other units, or C-141B aircraft from the active force. This plan is viable and will ensure the Milwaukee unit remains an important asset in defense planning.

QUESTIONS SUBMITTED BY SENATOR BYRD

FIVE YEAR CONSTRUCTION PLAN

QUESTION: Mr. Secretary, on June 20, 1985, during Senate consideration of the FY 1985 Supplemental Appropriations Bill, I engaged in a colloquy with the Chairman of the Defense Appropriations Subcommittee, Mr. Stevens; the ranking minority member of that Subcommittee, Mr. Stennis; the ranking minority member of the Senate Armed Services Committee, Mr. Nunn, and the ranking minority member of the Military Construction Appropriations Subcommittee, Mr. Sasser, in which I secured their support for accelerated design and budgeting for military construction projects in West Virginia.

In addition, Senate Report 99-168, dated October 31, 1985, accompanying the Fiscal Year 1986 Military Construction Appropriation Bill included the following passage at my request:

> DOD FACILITIES IN WEST VIRGINIA
>
> The Committee understands the need to accelerate military construction program contemplated for West Virginia which has been raised in hearings before the Senate Committees on Armed Services and Appropriations. The matter has been the subject of discussion on the Senate floor during the processing of the fiscal year 1985 supplemental appropriations bill. This need to accelerate the program has been the subject of correspondence with high-level military officials as well as discussions with the Secretaries of the Army and Air Force. The thrust of these discussions has been that early construction of these various projects will help provide much needed jobs; avoid the costs of inflation associated with delayed construction; and provide modern, updated facilities for use by military personnel in West Virginia. The Committee supports these arguments and direct the Department of Defense to redouble its efforts to accelerate the design of the various projects and to incorporate them into the fiscal year 1987 President's budget so that they may receive early consideration by the appropriate committees of Congress.

Mr. Secretary, please update for the record the information provided last year regarding which construction projects are contemplated in the latest Reserve and National Guard five-year plans for West Virginia. Please indicate the project description, the location, the estimated cost and the fiscal year in which the project is contemplated, as well as include a Standard Form 1391 in the record for each proposed project. Also, please indicate the percentage completion of the design work on each project and the estimated date when each project will be 35% designed.

ANSWER: The Services have provided the following information.

For the Army National Guard:

FY 1988, Buckhannon: Organizational Maintenance Shop Addition and Alteration (new project). Current estimated cost of $406,000 with 0% design. Estimated 35% designed by November 1986.

FY 1988, Camp Dawson: Training Facilities Phase I (Barracks Building was former project title). Current estimated cost of $763,000 with 0% design. Estimated 35% designed by November 1986. Training Facilities Phase II (Barracks Building was former project title). Current estimated cost of $1,100,000 with 0% design. Estimated 35% designed by November 1986. Training Facilities Phase III (Dining Facility was former project title). Current estimated cost of $1,150,000 with 0% design. Estimated 35% designed by November 1986.

FY 1988, Kingwood: Armory Addition. Current estimated cost of $750,000 with 0% design. Estimated 35% designed by November 1986.

FY 1988, Point Pleasant: Armory Addition (new project). Current estimated cost of $950,000 with 0% design. Estimated 35% designed by November 1986.

FY 1989, Camp Dawson: Training Facilities Phase IV (Dispensary and Barracks Building were former project titles). Current estimated cost of $1,100,000 with 0% design. Estimated 35% designed by July 1987.

FY 1989, Parkersburg: Aviation Support Facility (replaced planned Huntington Aviation Support Facility). Current estimated cost of $3,000,000 with 0% design. Estimated 35% designed July 1987.

FY 1990, Camp Dawson: Training Facilities Phase V (Dining Facility and Barracks Addition were former project titles). Current estimated cost of $700,000 with 0% design. Estimated 35% designed by July 1988.

DD Forms 1391 for Camp Dawson, Training Facilities Phase I and Buckhannon, Organization Maintenance Shop Addition and Alteration follow. The remaining DD Forms 1391 will be provided to the Committee when developed by the State.

For the Army Reserve:

FY 1988, New Martinsville: Expand 25-member to 60-member U.S. Army Reserve Center with two-bay Organizational Maintenance Shop. Current estimated cost of $1,290,600 with 35% design completed as of February 1986.

FY 1989, Parkersburg: New 200-member USAR Center with Organizational Maintenance Shop and Area Maintenance Support Activity (Expand 25-100 member USARC/OMS was former project title). Estimated cost is $3,306,000 with 0% design. This project will require acquisition of approximately a 10 acre site. The existing site of 3.5 acres will not accommodate expansion of the existing facility to meet USAR requirements. Estimated 35% design by December 1987.

FY 1991, Elkins: New 100-member U.S. Army Reserve Center with Organizational Maintenance Shop. Current estimated cost of

$1,016,000. Project design will be initiated upon completion of land acquisition. A Preliminary Site Selection meeting is scheduled for April 1986. Estimated 35% designed by March 1990.

FY 1991, Kingwood: New 100-member U.S. Army Reserve Center with Organizational Maintenance Shop. Current estimated cost of $1,389,000. Project design will be initiated upon completion of land acquisition. A Preliminary Site Selection meeting is scheduled for April 1986. Estimated 35% designed by March 1990.

FY 1991, Rainelle: Construct 200-member U.S. Army Reserve Center with Organizational Maintenance Shop. Current estimated cost of $2,387,000. Project design will be initiated upon completion of real estate acquisition. Estimated 35% designed by March 1989.

FY 1992, Beckley: New 100-member U.S. Army Reserve Center with Organizational Maintenance Shop. Current estimated cost of $2,053,000. Project design will be initiated upon completion of land acquisition. Estimated 35% designed by March 1991.

FY 1992, Morgantown: New 100-member U.S. Army Reserve Center with Organizational Maintenance Shop. Current estimated cost of $1,348,000. Design will be initiated upon completion of land acquisition. A Preliminary Site Selection meeting is scheduled for April 1986. Estimated 35% designed by March 1991.

For the Naval Reserve:

There are no projects in the five-year plan for West Virginia.

For the Air National Guard:

FY 1987, Martinsburg: Shortfield Runway. Current estimated cost of $2,500,000 with 95% design completed.

FY 1988, Charleston (Yeager Airport): Vehicle Maintenance/ Refueler Vehicle Shop (new project). Current estimated cost of $1,130,000 with 10% design completed. Estimated 35% designed by May 1986. Multiple Facility Additions (new project). Current estimated cost of $625,000 with 60% design completed.

FY 1988, Martinsburg: Phase I Ramp Addition (new project). Current estimated cost of $1,900,000 with 35% design completed.

FY 1989, Charleston (Yeager Airport): Squadron Operations Addition/Alterations (new project). Current estimated cost of $870,000 with 0% design. Estimated 35% designed by September 1986. Aircraft Holding Pad. Estimated cost of $1,000,000 with 0% design. Estimated 35% designed by September 1986. Addition to Aircraft Parking Apron (new project). Current estimated cost of $2,300,000 with 0% design. Estimated 35% designed by September 1986. JP-4 Fuel Storage Addition (new project). Current estimated cost of $1,700,000 with 0% design. Estimated 35% designed by September 1986.

FY 1989, Martinsburg: Construct Composite Avionics/NDI Facility. Current estimated cost of $700,000 with 0% design. Estimated 35% designed by September 1986. Construct Composite Operational Training Facility. Current estimated cost of $3,000,000 with 0% design. Estimated 35% designed by September 1986.

FY 1990, Martinsburg: Addition/Alternation (ADAL) Hangar 110 for C-130. Current estimated cost of $500,000 with 0% design. Estimated 35% designed by May 1987. Construct Jet Fuel Storage. Current estimated cost of $2,370,000 with 0% design. Estimated 35% designed by May 1987.

The Martinsburg Add to Aircraft Parking Apron project submitted last year is a fiscal year 1986 project and is currently being bid.

For the Air Force Reserve:

There are no projects in the five-year plan for West Virginia.

Except as previously explained, a DD Form 1391 for each of the preceding projects follows.

It must be emphasized that the information provided above is derived from various planning sources. It does not guarantee that specific construction projects will be included in future DoD budgets.

QUESTION: Which, if any, of these projects could be accelerated into fiscal year 1987?

ANSWER: The Air National Guard has already accelerated the Martinsburg Shortfield Runway project to fiscal year 1987. No other projects are recommended for acceleration into fiscal year 1987.

QUESTION: For projects which are underway or budgeted in FY 1987, please provide an updated schedule, including significant milestone events leading to full realization of these projects.

ANSWER: The Services have provided the following information.

For the Army Reserve:

South Charleston (Cross Lanes). A new 800-member Armed Forces Reserve Center is currently under construction. The project estimated completion date is June 1986.

Ripley. A contract was awarded in January 1986 to expand this 25-member to a 150-member U.S. Army Reserve Center with Organizational Maintenance Shop. A notice to proceed was issued in March 1986. Estimated completion is March 1987.

For the Air National Guard:

The Shortfield Runway project at Martinsburg is 95% design complete. The estimated construction completion is April 1988.

ACCELERATION OF CONSTRUCTION PROJECTS IN WEST VIRGINIA

QUESTION: What more can be done to accelerate the construction of West Virginia Reserve and National Guard facilities in response to language included, at my request, in the report accompanying the fiscal year 1986 Military Construction Appropriation Bill and the urgings of my colleagues?

ANSWER: Many projects for West Virginia Reserve and National Guard facilities have been accelerated and added since last year. The Air National Guard's aggressive schedule of military construction is based upon the Base Comprehensive Land Development and Master Plan Studies for Charleston and Martinsburg. Actions on military construction projects in West Virginia are being processed by the reserve components as expeditiously as possible.

ARMY RESERVE CENTERS

QUESTION: A site has now been agreed upon for the Rainelle Army Reserve Center replacement facility. What can be done to facilitate the design and construction of this facility?

ANSWER: The design can be initiated upon completion of the land exchange agreement to acquire the site.

QUESTION: Likewise, what can be done to accelerate the design and construction of the New Martinsville, Parkersburg, and Kingwood Army Reserve Centers?

ANSWER: New Martinsville. The design of the expansion from 25-member to 60-member US Army Reserve Center is proceeding to facilitate construction in the FY 88 program. This project was initially a candidate for the FY 89 program.

Parkersburg. The project is being intensively managed to facilitate construction in the FY 89 program. This project was initially a candidate for the FY 90 program.

Kingwood. The project design will be initiated upon completion of the site acquisition.

QUESTION: What is the latest status of the new Ripley Army Reserve Center for which I secured authorization in FY 1985 and funding in FY 1986?

ANSWER: A contract was awarded in January 1986 for the expansion of the 25-member to 150-member US Army Reserve Center with Organizational Maintenance Shop. The contract amount was $1,474,599.00 and a notice to proceed was issued in March 1986. Estimated completion is March 1987.

KEEP FULLY INFORMED

QUESTION: Mr. Secretary, I trust that you and your colleagues will keep me personally informed on all matters relating to the Reserve and National Guard in West Virginia. May I have your assurances on that?

ANSWER: My office, as well as the office of each of the reserve component military construction appropriation directors, is prepared to discuss reserve component military construction in West Virginia at any time.

SUBCOMMITTEE RECESS

Senator STEVENS. We are going to stand in recess now until 10 a.m., Friday, when we will hear testimony on the Department of Defense Navy shipbuilding program.

Thank you very much, gentlemen.

[Whereupon, at 11:40 a.m., Thursday, March 13, the subcommittee was recessed, to reconvene at 10 a.m., Friday, March 14. 1986.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

FRIDAY, MARCH 14, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Kasten, D'Amato, Cochran, Stennis, and Proxmire.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE NAVY (SHIPBUILDING AND LOGISTICS)

STATEMENT OF HON. EVERETT PYATT, ASSISTANT SECRETARY OF THE NAVY (SHIPBUILDING AND LOGISTICS)

ACCOMPANIED BY:

- VICE ADM. J. METCALF III, U.S. NAVY, DEPUTY CHIEF OF NAVAL OPERATIONS FOR SURFACE WARFARE
- VICE ADM. W.H. ROWDEN, COMMANDER, NAVAL SEA SYSTEMS COMMAND

NAVY SHIPBUILDING, SHIP MAINTENANCE AND MODERNIZATION AND RELATED RESEARCH AND DEVELOPMENT

BUDGET REQUEST

Senator STEVENS. Good morning.

We are here today to review the Navy's request for shipbuilding, ship maintenance and modernization, and related research and development programs in fiscal year 1987.

For these three programs the request includes over $11 billion for ship procurement and conversion, $6.4 billion for ship maintenance and modernization, and nearly $1 billion for related research and development. Together, these reflect an increase of $1.3 billion from fiscal 1986 appropriated levels as reduced by Gramm-Rudman-Hollings legislation.

Over the past few years, the committee has recommended large reductions in the shipbuilding budgets reflecting savings from competition and lower inflation. This past year, the Appropriations Act set aside over $6.3 billion of prior year unobligated balances, $2 billion of which is derived from the shipbuilding accounts.

These savings have been designated for payment of the fiscal year 1986 military pay raise and retirement costs which would have otherwise required a supplemental appropriation. Given the favorable shipbuilding cost trends, the committee will continue to look for savings in this area.

NONCOMBATANT VESSELS AND ATTACK SUBMARINES

Included in this year's shipbuilding request are increases in production of AEGIS ships and noncombatant vessels, as well as continuation of high rates of production of attack submarines.

Concurrently, the Navy plans to initiate procurement programs for a $1.6 billion new design attack submarine, an oceanographic research vessel, a new resupply ship, and conversion of a petroleum ship.

The committee will examine these new starts, increased construction rates, and current program developments within the context of growing fiscal constraints.

INTRODUCTION OF WITNESSES

With that, I welcome the Assistant Secretary of the Navy, Everett Pyatt, Admiral Metcalf, and Admiral Rowden.

Gentlemen, your complete statements will be printed in the record. We urge you to summarize them so that we can note the content of your presentation today.

Do you have an opening statement, Mr. Stennis?

OPENING REMARKS OF SENATOR STENNIS

Senator STENNIS. I do not have what you call an opening statement. I may have some questions before you get through with this hearing, Mr. Chairman. However, I want to say this.

For several years I have been dealing directly with the problem of shipbuilding on the Armed Services Committee. I am amazed and proud of the way the Navy has carried on in the phases of it that I am familiar with toward what I call the modernized 600-ship Navy.

I know at one time there they had filed claims that were almost as big as the House. They worked out of all that. They do not have that problem any more.

I think their capacity here for doing a day's work to build these ships, and all, should be complimented, as I understand the situation. Down home we never do anything except work all day from sunup to sunset. I think it is due to the leadership of the Navy. I want to publicly give them credit for it.

Senator STEVENS. Thank you.

Senator Proxmire?

Senator PROXMIRE. No statement, Mr. Chairman.

Senator STEVENS. Mr. Secretary, we are pleased to have you here.

STATEMENT OF EVERETT PYATT

Mr. PYATT. Thank you, Mr. Chairman.

I know your interest in dispensing quickly with prepared remarks. I submit them for the record.

I appreciate Senator Stennis' comments about what we have been trying to do. We will continue to work hard in the same way to control the costs and provide as many ships as we can for the money that you appropriate.

600-SHIP NAVY

I would like, first, to say that the overall 600-ship Navy is an affordable element of the defense program. Its percentage of the Defense budget is declining, has declined from 4.3 percent in 1982 to 3.5 percent now.

Our major combatant programs are doing very well, on schedule, within cost of what we would expect.

We do have some problem areas in the smaller ships, in the mine countermeasure ships and amphibious assault LCAC vehicles which we can discuss today.

PUBLIC-PRIVATE COMPETITION

We are proceeding with the public-private competition that this committee initially directed a year ago. Instead of the four ships that were required by law, we have made it eight ships this year. We think that is a very productive way to utilize the power of competition in the public and private sectors. It has sharpened both.

We do have a few remaining problems out of the authorization and appropriation process last year, one of which is the cost growth money for the Mine Countermeasures ship which we hope to solve.

The second is freeing the battleship money which got caught up in the same situation. We are in the situation where the authorization committees said fund it with old money if you make the savings. We made the savings. Then in the appropriation process it was funded with new money. So, we have a conflict and we hope to be able to get that resolved.

Those are the major points I would like to bring to your attention.

Do you want to proceed with questions?

[The statement of Mr. Pyatt follows:]

PREPARED STATEMENT OF EVERETT PYATT

ASSISTANT SECRETARY OF THE NAVY (SHIPBUILDING AND LOGISTICS)

Mr. Chairman and distinguished members of the committee. I am Everett Pyatt, Assistant Secretary of the Navy (Shipbuilding and Logistics).

I am pleased to appear before this committee to discuss the Navy Shipbuilding and Conversion Program, our progress in constructing the 600-ship Navy, and the President's Budget Request for Fiscal Year 1987. Ships are becoming a decreasing portion of the defense budget, having fallen from 4.3% in FY 81 to 3.5% in FY 87. Clearly, a 600-ship Navy is affordable.

The 600-ship Navy, with the 15 carriers called for by our Maritime Strategy, will be in place by the end of this decade. The fleet will have increased from 479 battle force ships in 1979 to 553 by the end of this year. This level will be achieved with funds already authorized and appropriated. As of 1 February 1986, there were 84 naval ships under construction, conversion, or reactivation at 17 different U.S. shipyards.

Concurrent with increasing the size of the Navy, we have significantly reduced acquisition costs. By improving our acquisition management, we have saved the taxpayers billions of dollars. The FY 1983, 1984, and 1985 shipbuilding programs are a total of $4.4 billion under the President's Budget Requests.

In my appearance before this committee last year, I described the major elements of our acquisition strategy; design and cost stability, competition, and increased emphasis on developing acquisition professionals. These precepts now permeate daily decisionmaking throughout the Navy's acquisition community. Today, I want to go further and discuss our acquisition policy, the results of competition, our achievements in acquisition streamlining, and highlight the major programs in our Fiscal Year 1987 request.

Acquisition Improvement

I would like to make special note of the steps taken by the private shipyards of the United States to improve their capabilities to respond to the Navy's needs. Their cooperation and assistance has been instrumental in achieving our acquisition goals. In addition, the private yards have taken steps of their own, including capital investment, to improve productivity and reduce costs.

Ships are now constructed of larger, more fully completed modules, resulting in faster, less expensive construction. New and improved facilities have improved yard efficiency and productivity and have reduced construction times. The private yards have learned from their strongest competitors, the Japanese yards, new and better production and production planning techniques.

All these efforts by the private yards are evidence that the U.S. shipbuilding industry wants to improve its product and reduce the costs. We are most pleased by these developments and look forward to continuing a working relationship that is beneficial to both Navy and the industry.

Our Navy shipyards are large businesses in their own right. If they were a private corporation, they would rank in the Fortune 100 based on both revenues ($4B per annum) and number of people employed (79,000). We sponsored a major review of our shipyard operations in our continuing effort to ensure effective and efficient business practices are in place in all our activities. As a result, we have reduced funding by $500M by reducing overtime and overhead costs and improving material and labor utilization practices. Furthermore, we are now moving into our second year of public/private competition which will serve as a major incentive for improved public yard performance. Congress directed that, in FY 1986, four or more overhauls be competed between the public and private sectors. We have doubled that amount, eight ships have been designated for competition, including two nuclear submarines. We expect this competitive pressure to further reduce the cost of overhauls/repairs in the Naval shipyards. I might add that, in the general area of ship maintenance, we have been able to reduce the amount of "growth" work in our maintenance availabilities; that is, we have been able to minimize the impact of "low-ball" bidding. Under fixed-price bidding, we now bring overhauls in under the government estimate, even including the growth work that evolves. Increased management attention will help us do even better in the future.

Our military emphasis is changing from force building to force modernization, readiness, and sustainability. Our primary business mission is to achieve our force level, modernization, readiness, and sustainability goals at reduced cost. We believe our acquisition policies will achieve that end.

Competition

Competition is the cornerstone of our acquisition strategy. It has reduced our acquisition costs and it will continue to reduce costs.

In FY 1980, about 15 percent of Navy ship construction and conversion dollars were competitively awarded. In FY 1985, that percentage increased to over 86 percent. In FY 1986 and beyond, we intend to compete all of our ship construction and conversion, with eventual inclusion of the TRIDENT submarine.

Competition continues to work to save the taxpayers money. The FY 1983-FY 1985 shipbuilding programs are currently $4.4B under the President's budget.

Acquisition Streamlining

I reported to this committee at this time last year that the Secretary of the Navy had appointed an individual to oversee our initiatives to reduce or cancel technical and acquisition specifications for systems that have been over-specified. I am pleased to report that major strides have been taken during this first year.

The acquisition streamlining objective is to identify, develop, and implement improvements in all aspects of acquisition that will result in a reduction of the time and cost required to obtain quality weapon systems, facilities, and equipment.

Our initial thrust has been to streamline contract requirements. In particular, we have been taking a hard look at our specification base which includes approximately 15,000 documents. We want to ensure that only up-to-date, technically correct and cost-effective specifications are included in our contracts. For example, we have launched attacks on the specification used for ship construction to identify non-cost-effective requirements. We are progressing well into the areas of heating, ventilation, air conditioning, habitability and compressed air systems and will continue until all areas have been thoroughly reviewed and cost-reducing change implemented.

We have instituted policy to avoid premature application of specifications and standards. Prior to full-scale development, all specifications and standards are cited for guidance only. We are specifying system level requirements in terms of mission performance instead of the "how-to" specifications or standards. During full-scale development, we have limited automatic chain referencing of specifications. Ultimately, this process will result in production contracts that have been rigorously scrubbed of any unnecessary specifications or "gold-plated" requirements, while permitting industry flexibility to propose innovative, cost avoiding alternatives. By involving industry early in our design process, we are avoiding downstream production problems which can result in cost growth. Examples of this early industry involvement are the DDG-51 Guided Missile Destroyer and the AOE-6 Fast Combat Support Ship. In the case of DDG-51, the design is a product of early industry involvement to prove its producibility. The AOE-6 design process has included five separate design reviews with active participation by shipbuilders and designers. All shipbuilding programs currently under development will receive this special emphasis on streamlining. This includes our more sophisticated combatants such as the SSN-21 submarine program.

Where appropriate, we are using performance specifications for production contracts. An example of this is the contract for two T-AGS Ocean Survey ships awarded last year to Bethlehem Steel. We used a Circular of Requirements to procure these ships - in effect, a performance spec - which resulted in a very competitive award and significant savings to the Government.

We know our success in achieving a combat-ready 600-ship Navy, in the face of budget realities confronting our nation, makes initiatives such as streamlining imperative. The next step in cost reduction will come from this effort.

FY 1987 SCN Program

Now I would like to discuss some highlights of the 1987 Shipbuilding and Conversion Program. The FY 1987 Navy budget includes funding for acquisition of 21 new ships and the conversion of three. The majority of this construction and conversion is for replacement and modernization rather than force expansion. Prior year programs provided the bulk of funding for establishment of the 600-ship Navy which will soon be a deployed reality. Our programs are now designed to assure that the 600-ship Navy will continue to consist of the most capable and modern ships carefully aligned to meet our worldwide commitments.

The FY 1987 program includes funds for the fourteenth TRIDENT submarine, four LOS ANGELES (SSN-688) class nuclear attack submarines, two TICONDEROGA (CG-47) class cruisers, three Arleigh Burke (DDG-51) class destroyers, four coastal minehunters, two fleet oilers, three TAGOS support ships, one fast combat support ship (AOE), and one oceanographic ship (AGX). Advance funding is requested for the new attack submarine (SSN-21) planned for FY 1989. Funds are also included for conversion of two T-ACS auxiliary crane ships and the jumbo conversion of one oiler (AO).

Balanced Budget and Emergency Deficit Control Act of 1985

The FY 1986 appropriation levels for the Department of Defense were well below the President's request and left no room for additional reduction. We are now facing the Gramm/Rudman/Hollings deficit reductions. We must further improve the way we do business to help prevent further budget cuts from devastating our defense posture.

I wish to note that the Gramm/Rudman/Hollings reductions are causing problems, not all of which are well defined. In programs with small unit buys and long-term outlays such as shipbuilding, successive annual applications of Gramm/Rudman/Hollings will leave us short of the funds required to complete the final units. This is probably true for most of the ships under construction now, because unobligated balances necessary to complete the ship, under the full funding policy, are being cut. Although it is early in the year, the FY '86 and prior year SCN programs may be about a half billion dollars underfunded as a result of this legislation. This is after we remove all program management reserves and escalation savings. The problem would be eased if we had greater flexibility to move funds between the individual shipbuilding program accounts and across fiscal years. Furthermore, the cuts make it highly important that shipbuilders meet the target prices they contract for, because there are no funds beyond that level.

Mr. Chairman, that concludes my statement. VADM Joseph Metcalf, Deputy Chief of Naval Operations (Surface Warfare), and VADM William Rowden, Commander, Naval Sea Systems Command, are with me today to provide further details of the shipbuilding program.

REMARKS OF ADMIRAL METCALF

Senator STEVENS. Admiral Metcalf, do you have any comments?

Admiral METCALF. None, other than to say I am pleased to be here, sir.

I am responsible for the requirements side of this program you are reviewing today. We think it is one which is balanced relative to the maritime strategy. It is focused on being able to carry out that strategy. We think we have a first-rate program.

You have outlined the dollars which I would have spoken to. There is no sense going through that.

I think that this is a program which will sustain a strong 600-ship Navy which, relative to the risk, we think is a prudent-sized force.

I am ready for your questions.

[The statement of Admiral Metcalf follows:]

PREPARED STATEMENT OF VICE ADM. JOSEPH METCALF, III, U.S. NAVY

DEPUTY CHIEF OF NAVAL OPERATIONS

Mr. Chairman and distinguished members of the committee, I am Vice Admiral Joseph Metcalf, III, USN, the Deputy Chief of Naval Operations for Surface Warfare and the sponsor for the Shipbuilding and Conversion, Navy (SCN) Appropriation.

It is my privilege today to present to you the Navy's SCN budget request for Fiscal Year 1987 and to review our five year shipbuilding plan. The ships we are requesting in FY 1987 will sustain and upgrade the capabilities of the Fleet to enable us to carry out the Maritime Strategy into the next century.

Ultimately, our need for a Navy is driven by the threats to our interests as a maritime nation. Since the earliest days of the Republic, the Navy has maintained the peace, fought our enemies and protected American security. With our rise to a global power, these interests expanded to include the protection of the entire Free World and the missions of the Navy and its size increased accordingly.

MARITIME STRATEGY

VG-1* Today, we have formal defense treaties with 43 nations, only two of which share a land border with us. In addition, there are a number of nations outside the formal alliance system with which we have common military and economic interests. The Maritime Strategy takes these commitments and the requirements of coalition warfare and combined operations into account. The goal of the Maritime Strategy is to deter war, but if deterrence fails we must be able to terminate any conflict on favorable terms. In fact, deterrence rests on our warfighting capability. Conflict can best be prevented by convincing any potential adversary that he cannot hope to achieve any worthwhile objective by aggression.

VG-2 Maritime forces have roles across the entire spectrum of conflict, from peacetime presence to nuclear war. Today, as every day, the Navy is at sea around the world, protecting our overseas interests. Wherever needed, the Navy provides the balanced forces required to permit the United States and its allies to enjoy the free use of the Sea Lines of Communication during what the Chief of Naval Operations has described as the "era of violent peace." At the high end of the conflict spectrum, our strategic submarine force provides for crisis stability and deterrence of global war.

We believe that a 600-ship Fleet is the minimum force necessary to carry our the Maritime Strategy. It is a prudent risk force.

THE 600 SHIP NAVY

VG-3 Thanks to your support our Fleet has grown from 491 ships in 1981 to 542 at the beginning of this fiscal year. We will reach the 600 ship requirement by the end of the decade when the ships presently under construction join the Fleet. The Fiscal Year 1987 request will sustain and modernize the Force by replacing aging, marginally capable units which are reaching the end of their service lives with modern units that can counter the increasing Soviet threat beyond the year 2000.

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*All viewgraphs appear at conclusion of prepared statement.

In 1985 we delivered 19 new and five converted ships. These included two TRIDENT submarines, three LOS ANGELES Class nuclear attack submarines, two TICONDEROGA Class guided missile cruisers, five OLIVER HAZARD PERRY Class guided missile frigates and the lead ship of the Landing Ship Dock (LSD-41) Class, USS WHIDBEY ISLAND. USS FORRESTAL (CV-59) completed the Service LIfe Extension Program (SLEP). In addition, four TAGOS-1 Class ocean surveillance ships, two ARS-50 salvage ships, three Fast Sealift Ships (FSS) and an auxiliary crane ship (TACS) were added to the Fleet.

VG-4 By the end of this fiscal year our Battle Forces will grow to 553 units.

VG-5 Our ultimate naval force objectives for the 600-Ship Fleet are:

- 15 Carrier Battle Groups
- 4 Battleship Battle Groups
- 100 Nuclear Attack Submarines
- Amphibious ships for the Assault Echelons of a Marine Amphibious Force (MAF) and a Marine Amphibious Brigade (MAB)
- 14 Mine Countermeasures Ships
- 10 Underway Replenishment Groups
- 7 Convoy Escort Groups

VG-6 Some people have questioned the affordability of the 600 ship force. I believe that we must sustain and continue to modernize the Fleet. If we fail to do so, history will judge that our failure was due to a lack of will, not a shortage of resources. In fact, aggressive management initiatives, a favorable marketplace and lower than anticipated inflation have drastically reduced our estimates of the level of investment required. This viewgraph (Viewgraph 6) compares common years of the Navy's shipbuilding plans over the past five years. The Fiscal Year 1983 request planned for a shipbuilding request of more than $28 billion. By last year the estimate for Fiscal Year 1987 was reduced to less than half and this year's request is $2.688 billion below that. The FY 1987 SCN request represents negative real growth for the second straight year and we envision only modest increases will be required over the next five years. By the end of this period, we predict that three percent real growth will be adequate to sustain, modernize and operate this force indefinitely.

A word of caution is in order. In actions on the Fiscal Year 1986 SCN request, approximately $2 billion was transferred from prior year programs. We have fully reflected the savings expected from competition and the lower inflation indices in our FY 1987 estimates. It would be unreasonable to expect that savings of this magnitude can be achieved in the future. I am particularly concerned about the cumulative effect of reductions of funds for ships which have already been appropriated. Further cuts could jeopardize the executability of our prior year programs.

VG-7 NAVY FIVE YEAR SCN PLAN - FISCAL YEAR 1987-1991

This year we are requesting authorization and appropriation of $11,046.2 million for the construction of 19 new ships and the conversion of three others. The five year VG-8 shipbuilding plan projects a total of 106 new construction ships and 20 conversions over the period from Fiscal Year 1987 through 1991. This plan reflects a continued commitment to maintain the momentum of the building program initiated five years ago and will ensure that the Navy has the necessary Battle Forces to carry out the Maritime Strategy and to meet our national requirements.

The principal changes from the Fiscal Year 1987 column of last year's request include:

- Deletion of the Battleship WISCONSIN as a result of its appropriation in FY 1986.
- Reduction of the request for TICONDEROGA (CG-47) Class cruisers from three to two.
- Increase in the request for ARLEIGH BURKE (DDG-51) Class destroyers from two to three.
- Delay of the AVENGER (MCM-1) class.
- Acceleration of the TAGOS oceanographic research ships.
- Acceleration of the AO-177 Jumboization Program from FY 1988 to 1987.
- Restructuring of the Landing Craft Air Cushion (LCAC) profile.

I will now give you a description of each program for which we are requesting funding.

STRATEGIC SUBMARINE FORCE

We presently have 37 strategic submarines (SSBNs) in the Force, including 30 submarines of the LAFAYETTE, JAMES MADISON AND BENJAMIN FRANKLIN classes and seven TRIDENT I C-4 configured OHIO Class submarines. Twelve ships of the earlier classes have been converted to carry the TRIDENT I missile.

The SSBNs comprise the most secure element of our strategic triad and provide the basic underpinning of our deterrent strategy. Their survivablity under all conditions of war initiation promotes stability in a crisis and their endurance provides for control of escalation in a conflict.

VG-9 OHIO Class Submarine

We plan to maintain a building rate of one TRIDENT submarine per year throughout the five year defense plan. The ultimate force level objective is undetermined.

The first eight ships of the class will carry 24 TRIDENT I C-4 submarine launched ballistic missiles. The changeover to the more potent TRIDENT II D-5 missile will commence with the nintn ship, which was funded in Fiscal Year 1981. In the early 1990s we plan to begin to reconfigure the first eight ships to carry the TRIDENT I missile.

This year we are requesting $1509.1 million for the 14th OHIO class submarine. This includes $146.4 million for long lead materials for follow-on ships.

ATTACK SUBMARINE FORCE

The Soviet submarine force is the largest in the world, numbering some 300 active units of two dozen classes. Nearly half of the force is nuclear powered and this percentage is expected to increase in the years ahead as heavy Soviet investment in submarine construction continues to bear fruit. Currently, the Soviets are testing or building nine different classes of submarines. Four classes of attack submarines have achieved initial operational capability since 1983.

Countering this formidable threat is the primary mission of the U.S. nuclear attack submarines. The overall force level objective remains at 100 ships. There are currently a total of 96 nuclear attack submarines in the Force. Of these, 33 are LOS ANGELES (SSN-688) Class submarines. Eighteen additional units of this class have been authorized and appropriated through 1986 and 15 of these are under contract.

We will introduce the SEAWOLF (SSN-21) Class submarine during the next five years in order to maintain our qualitative lead over the Soviet submarine force.

VG-10 LOS ANGELES (SSN-688) Class Submarine

This year's budget request includes $2332.6 million in full funding for four more improved SSN-688 Class submarines and long lead material for the FY 1988 and 1989 ships. These ships incorporate the Vertical Launch System (VLS) for TOMAHAWK as well as enhanced arctic capabilities, improved quieting and improved combat control systems.

VG-11 SEAWOLF (SSN-21) Class Submarine

The budget includes $454.3 million in advance procurement for the lead ship of the SSN-21 Class. This new class is designed to counter the rapidly increasing capabilities of the Soviet submarine force. It is a quieter, faster and more heavily armed submarine designed to deploy to forward ocean areas to seek out and destroy enemy submarines and surface ships and attack land targets. The many new features of this submarine represent a quantum improvement over earlier designs. Recent anaylsis predicts greatly improved exchange ratios against the projected threat. We plan to request full funding for the lead ship in the class in Fiscal Year 1989.

AIRCRAFT CARRIERS

Our 13 aircraft carriers are deployed worldwide in support of our national commitments. They are capable of executing response options ranging from peacetime presence through general war. Together with their embarked air wings, the carriers have vital roles in strike, anti-surface, anti-air and anti-submarine warfare across the full conflict spectrum.

As I indicated earlier, we are building to a force level of 15 deployable aircraft carriers. We expect to attain 14 by the end of next year and 15 by 1990. Three NIMITZ class nuclear powered carriers are under construction at Newport New Shipbuilding Company. The first of these, USS THEODORE

ROOSEVELT (CVN-71) is scheduled for delivery in September of this year. One conventionally powered carrier, USS INDEPENDENCE (CV-62), is undergoing service life extension at Philadelphia Naval Shipyard. This program will add approximately 15 years to the service life of our older carriers.

VG-12 Carrier Service Life Extension Program (CV SLEP)

Last year the Congress appropriated $52.0 million in advance procurement for the USS KITTY HAWK (CV-63) SLEP. During the budget formulation this past spring, we moved the start of KITTY HAWK from Fiscal Year 1987 to 1988. This year we are requesting $83.5 in additional advance procurement to support the FY 1988 start.

SURFACE COMBATANTS

For many years the Soviets were expanding their surface forces both qualitatively and quantitatively while U.S. and allied force levels dwindled. The shipbuilding programs of the last five years and the warfighting improvements we have made to our existing ships have reversed these adverse trends. The AEGIS Combat System and Vertical Launch System VLS) have revolutionized surface warfare. The AEGIS System can make lightning fast decisions based on our planning and simultaneously engage numerous air, surface and subsurface contacts. The dramatic increase in the offensive power of our surface combatants has expanded their contribution to our overall warfighting capabilities.

Our minimum force level objective is four reactivated battleships, 33 guided missile cruisers, 67 guided missile destroyers and 101 frigates. We are constantly reviewing these force level requirements in the context of our Maritime Strategy as the threat evolves. Presently our most severe shortfall is in guided missile destroyers.

VG-13 TICONDEROGA (CG-47) Class Guided Missile Cruisers

During Fiscal Year 1985 USS YORKTOWN (CG-48), the second ship of the TICONDEROGA class, deployed on extended operations. USS VINCENNES (CG-49) was commissioned and USS THOMAS S GATES (CG-51), USS BUNKER HILL (CG-52) and USS MOBILE BAY (CG-53) were launched. USS VALLEY FORGE (CG-50) was commissioned in January 1986. Twelve additional ships are under contract.

In FY 1987 we are requesting $1924.3 million in full funding for two more CG-47s. This includes $10.5 million for advance procurement for the Fiscal Year 1988 ships. The eight cruisers we plan to procure over the next four years will complete the class of 27 ships.

The last CG-47 baseline will incorporate all the proven capabilites of the AEGIS Combat System along with LAMPS III, the Vertical Launch System (VLS), TOMAHAWK missiles, the SQQ-89 ASW Upgrade, the SPY-1B Radar, the SQS-53B Sonar and improved computers.

VG-14 ARLEIGH BURKE (DDG-51) Class Guided Missile Destroyers

The ARLEIGH BURKE Class DDGs are intended to replace the aging DDG-2 and DDG-37 Class guided missile destroyers which are reaching the end of their service lives.

The DDG-51 will be the most powerful class of destroyers ever to go to sea. It will carry the AEGIS Combat syste, the VLS, TOMAHAWK, HARPOON and STANDARD (SM-2) missiles as well as a 5"/54 caliber Lightweight Gun, the Close in Weapon System (CIWS), ASROC and anti-submarine torpedoes. This ship also will incorporate enhanced survivability and damage control features.

The Congress funded the lead ship in the class in Fiscal Year 1985. In FY 1987 we are requesting $2527.8 million in full funding for three ships. The amount includes $79.8 million in advance procurement for the Fiscal Year 1988 ships.

We plan to procure 17 DDG-51s over the period 1987 through 1991. The present force level objective for this class is 29 ships.

AMPHIBIOUS WARFARE SHIPS

Amphibious warfare ships are uniquely designed to support assault from the sea against defended positions ashore. They must be able to sail in harm's way and provide a rapid buildup of combat power ashore in the face of opposition. The United States maintains the largest and most capable amphibious force in the world and the current building program will further enhance that capability as newer units join the Fleet.

In 1981 the lead ship of the WHIDBEY ISLAND (LSD-41) Class was appropriated and that ship was delivered in January of last year. A total of eight LSD-41s have been funded to date.

The first ship of a three ship multi-year LHD-1 procurement was approved last year. This class in intended to replace the aging LPH Helicopter Assualt Ships. The LHD-1 Class is designed to be the most versatile amphibious ship ever built. A modification to the highly successful LHA class, the LHD will greatly increase our lift capacity, provide a flight deck for helicopters and vertical/short takeoff (VSTOL) aircraft and a large well deck for conventional landing craft and the Landing Craft Air Cushion (LCAC). It will have the capability of performing secondary power projection and sea control misions.

Our goal is to attain sufficient amphibious ships to carry the assault echelons of a Marine Amphibious Force (MAF) plus a Marine Amphibious Brigade (MAB) by 1996. This represents a delay of two years in attainment of our lift objective, chiefly because of fiscal constraints.

The FY 1987 budget request includes no new LCAC. These craft are undergoing extensive operational tests and engineering enhancements to improve reliabiality.

VG-15 WASP (LHD-1) Class Amphibious Assault Ships

In FY 1987 we are requesting $232.0 million for long lead material for LHD-3 and LHD-4. We plan to build a total of three ships of this class over the five year plan.

VG-16 AUSTIN (LPD-4) Class Amphibious Transport Dock Service Life Extension Program

We are planning to commence the LPD-4 Class Service Life Extension Program (SLEP) in FY 1989. This will extend the service life of these ships to 45 years, modernize their engineering plants and improve survivability and self-protection systems. This year we are requesting $23.1 million for advance procurement for the first ship.

MINE COUNTERMEASURES FORCES

The Soviet Union possesses the world's largest offensive mining capability. In the event of war, mines could be employed to deny use of harbors, straits and coastal waters, thereby jeopardizing the importation of strategic materials and the reinforcement and resupply of U.S. and allied forces in Europe and Asia.

For many years our mine countermeasures capability has been inadequate to meet the threat. Our oceangoing minesweepers are approaching obsolescence and are increasingly difficult to maintain. We have established a minimum objective of 31 new mine countermeasures units which, in conjunction with our MCM helicopters, will have the mission of clearance of U.S. waters in time of war. Current plans call for 14 AVENGER (MCM-1) Class ships and 17 CARDINAL (MSH-1) Class Minesweeper Hunters. Eleven MCMs have been funded to date and the last three units will be requested next year.

VG-17 CARDINAL (MSH-1) Class Minesweeper Hunters

The lead ship of the MSH-1 Class was funded in FY 1984 and four more were appropriated last year. The remainder of the class will be requested over the next three years.

The MSH is a surface effect ship with a glass reinforced plastic hull to minimize the danger from magnetic mines. The MSH will use much of the same mission equipment as the MCM. These ships will be operated by the Naval Reserve Force.

This year we are rquesting $196.1 million for four ships of this class.

MOBILE LOGISTIC SUPPORT FORCES

The expanding Fleet requires additional logistic support forces. These forces consist of multi-product "station ships" such as the AOE with the speed and capability to remain with the Carrier Battle Groups and shuttle ships to carry fuel, ordnance, stores and provisions from advance logistic bases or consolidation points at sea. Shuttle ships include Fleet oilers (AOs/TAOs), ammunition ships (AEs/TAEs) and stores ships (AFS/TAFS). In the even of non-availability of an AOE or AOR, one AO/TAO and one AE may be assigned to the Battle Group.

VG-18 Fast Combat Support Ship (AOE-6 Class

Our force level objective is 15 station ships. The four AOEs we require to meet our objective are planned for procurement over the period FY 1987 through FY 1991. We are requesting $612.7 million for the lead ship of the AOE-6 Class this year.

VG-19 Fleet Oiler (TAO-187) Class

This is the sixth year we are requesting funding for the TAO-187 Class. Our present force level objective is 19 ships. To date a total of nine ships have been appropriated. The budget includes $275.5 million for two additional units. The remaining ships in the class will be constructed over the last four years of the five year plan.

VG-20 CIMARRON (AO-177) Class Fleet Oiler Jumboization

The FY 1987 budget includes $62.3 million to fully fund the jumboization of the first AO-177 Class oiler. The present design would increase the capacity of the five ships of this class from 120,000 barrels to 180,000 barrels. We also are studying an ammunition variant of this design. The last four units of the class will be jumboized over the next four years.

VG-21 Ocean Surveillance (TAGOS-1) Class Ships

We presently plan to request a total of 26 TAGOS ocean surveillance ships. Their mission is to collect, process and transmit acoustic data. The first 14 ships of the class have been appropriated. Early results from these ships and their towed array sonars have been impressive. We currently are planning to change from a conventional monohull to a Small Waterplane Area Twin Hull (SWATH) design to improve our capability to operate in high latitudes under adverse weather conditions. The lead SWATH ship was appropriated in FY 1986.

This year we are requesting $148.1 million for the last three monohull units. Commencing in FY 1988 we plan to procure the follow-on SWATH units.

VG-22 Oceanographic Research (A´OR-23) Class Ship

As part of our effort to enhance the Navy's contribution to oceanographic research, we are planning to procure several new oceanographic research vessels. The AGOR-23 will be built to commercial standards and operated by civilian academic institutions. We are requesting $33 million in FY 1987 to fund this ship.

VG-23 Auxiliary Crane Ship (TACS)

We are requesting $61.1 million to convert two auxiliary crane ships this year. The purpose of these ships is to offload containerized and outsized cargo from non-self sustaining cargo ships, either offshore or in undeveloped or damaged ports. A total of six TACS are included in the five year plan.

CRAFT

VG-24 Service Craft

The FY 1987 request for craft include $39.9 million to procure a variety of service craft. This includes funding for one Torpedo Tester (YTT), which has been capped at $19.0 million. Also included are $15.9 million for three Floating Cranes (YD), $2.8 million for two Fuel Barges (YON) and $2.2 million for two Oil Storage Barges (YOS).

Landing Craft

We are requesting $19 million in the Landing craft line for the Special Warfare Craft (Medium) program. We plan to request a total of 18 units through FY 1990 to complete the program.

OTHER

VG-25 Strategic Sealift

Commencing in FY 1984, the Navy requested funds to purchase merchant ships which were no longer competitive in commercial trade in order to build up the Ready Reserve Force (RRF) to ensure rapid availability of adequate sealift in event of war. As the Merchant Marine continues to shrink, the RRF has grown. There will be 85 ships in the RRF by the end of this year. The objective is 116 ships by 1991. These include tankers, dry cargo ships, auxiliary crane ships, container ships and roll on/ roll off (RO/RO) ships. We are requesting $27.8 million to continue this program in FY 1987.

Sealift Enhancement - Civil Reserve Auxiliary Fleet (CRAFT)

We are requesting funds for the first time for a Sealift Enhancement Program which parallels the Air Force Civil Reserve Air Fleet (CRAF) Enhancement Program. This program is intended to stimulate commercial ship construction in U.S. shipyards, ensure U.S. Flag commercial ships have militarily useful features at mobilization and increase employment for merchant officers and seamen. The FY 1987 budget request includes $20.7 million for this new program.

Outfitting/Post Delivery

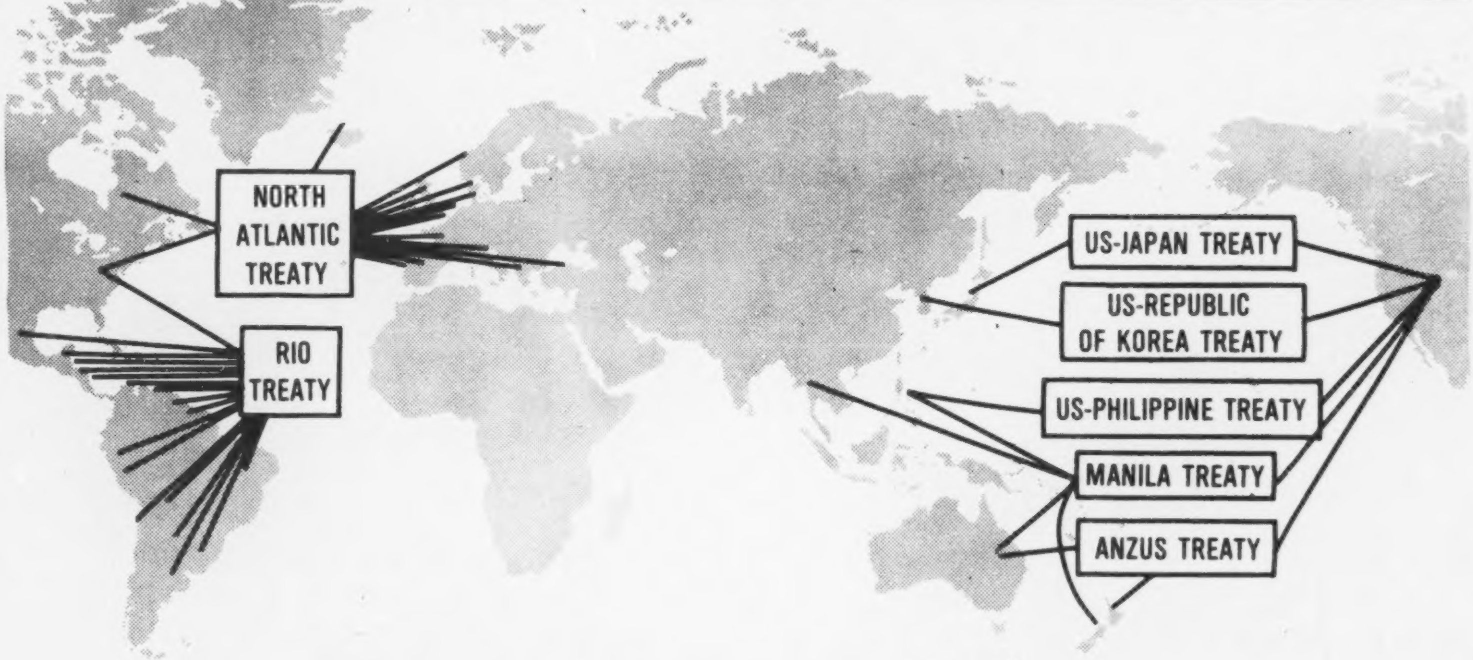
We are requesting $226.1 million for outfitting and $167.8 million for post delivery. Outfitting funds purchase repair parts and consummables to full initial ship allowances for ships approaching deilvery. Post delivery funds are used to pay for all work required to correct deficiencies identified during trials or post delivery.

Ship Contract Design.

This year the Ship Contract Design funding is included in the SCN Appropriation. The contract design phase is normally a joint Navy-shipbuilder effort which produces the contract drawings and specifications for the ships in the five year plan. Including Ship Contract Design under the SCN Appropriation will ensure a better correlation between the designs and the building profiles and improve reaction to late changes to the shipbuilding plan.

Mr. Chairman, that concludes my overview of the FY 1987 SCN Plan. I appreciate this opportunity to appear before your committee to assist you in your deliberations on the Defense Appropriations Bill. I urge your continued strong support for our shipbuilding program.

ALLIANCES, TREATIES AND AGREEMENTS


NORTH
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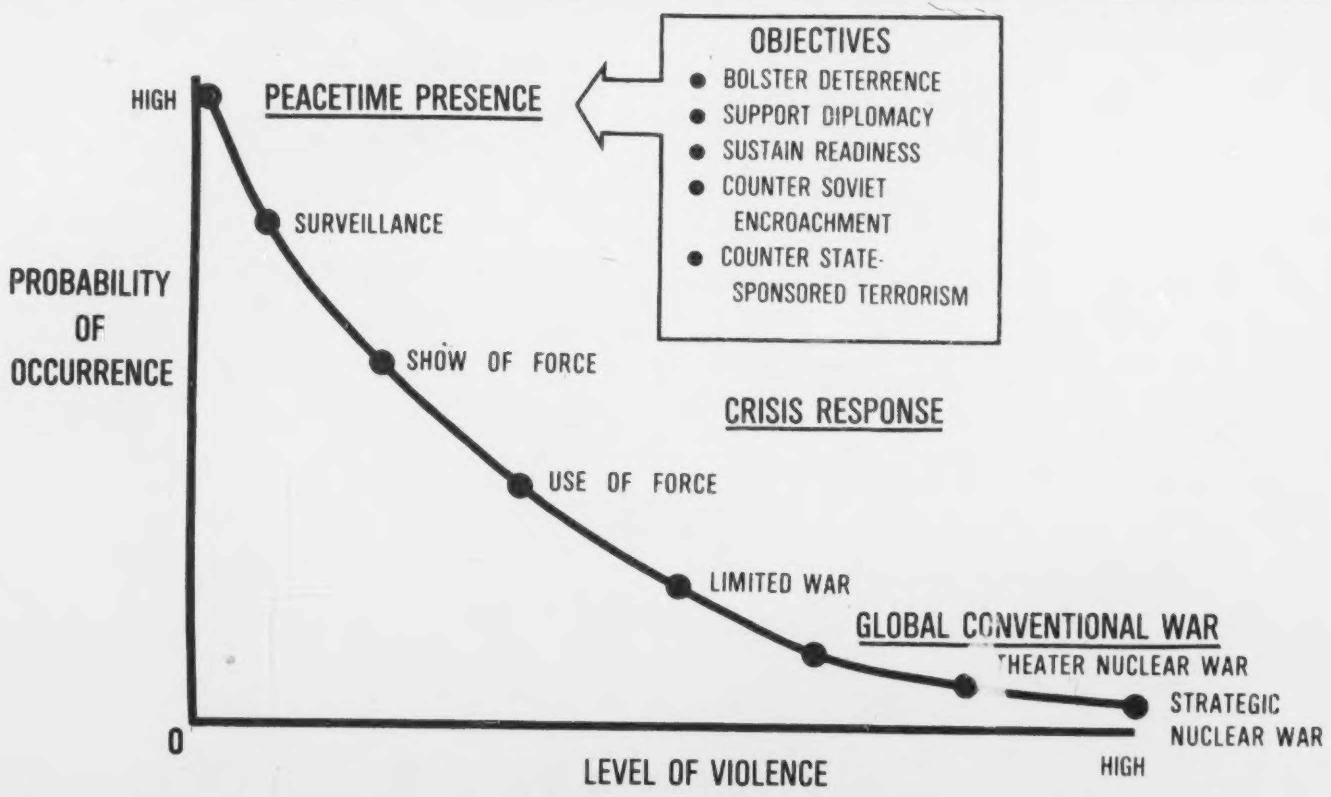
US-REPUBLIC
OF KOREA TREATY
US-PHILIPPINE TREATY
MANILA TREATY
ANZUS TREATY

43 FORMAL ALLIANCE AND TREATY PARTNERS

APPLICATIONS OF MARITIME POWER



OBJECTIVES

- BOLSTER DETERRENCE
- SUPPORT DIPLOMACY
- SUSTAIN READINESS
- COUNTER SOVIET ENCROACHMENT
- COUNTER STATE-SPONSORED TERRORISM

VG-2

NAVAL FORCE LEVELS BEGINNING FY 1986

STRATEGIC SUBMARINES	37
AIRCRAFT CARRIERS	13
BATTLESHIPS	2
PRINCIPAL SURFACE COMBATANTS	210
ATTACK SUBMARINES	100
PATROL COMBATANTS	6
AMPHIBIOUS WARFARE SHIPS	62
MINE WARFARE SHIPS	3
MOBILE LOGISTIC/SUPPORT SHIPS	109
TOTAL	542

NAVAL FORCE LEVELS
END FY 1986

STRATEGIC SUBMARINES	38
AIRCRAFT CARRIERS	13
BATTLESHIPS	3
PRINCIPAL SURFACE COMBATANTS	214
ATTACK SUBMARINES	101
PATROL COMBATANTS	6
AMPHIBIOUS WARFARE SHIPS	62
MINE WARFARE SHIPS	3
MOBILE LOGISTIC/SUPPORT SHIPS	113
TOTAL	**553**

600 SHIP FLEET COMPOSITION

- 15 CARRIER BATTLE GROUPS
- 4 BATTLESHIP BATTLE GROUPS
- 100 ATTACK SUBMARINES
- BALLISTIC MISSILE SUBMARINES
- MAF-PLUS-MAB ASSAULT ECHELON LIFT
- 14 MINE COUNTERMEASURES SHIPS
- 10 UNDERWAY REPLENISHMENT GROUPS
- 7 CONVOY ESCORT GROUPS

COMPARISON OF NAVY SHIPBUILDING PLANS

FY 1983 - FY 1987
(COMMON YEARS)

FISCAL YEARS
($ MILLIONS)

	1987	1988	1989	1990	1991
FY 1983 REQUEST	28,074.6	—	—	—	
FY 1984 REQUEST	21,248.2	27,324.8	—	—	--
FY 1985 REQUEST	16,449.2	18,756.5	21,600.8	—	—
FY 1986 REQUEST	13,734.4	17,102.2	16,526.8	16,323.8	—
FY 1987 REQUEST	11,046.2	12,295.9	13,252.9	13,101.5	14,696.9

SHIPBUILDING AND CONVERSION, NAVY
FY 1987 BUDGET REQUEST
($ IN MILLIONS)

PROGRAM	SHIP/TOA
TRIDENT	1/1362.7
TRIDENT AP	146.4
SSN-688	4/2047.8
SSN-688 AP	284.8
SSN-21 AP	454.3
CG-47	1913.8
CG-47 AP	10.5
DDG-51	3/2448.0
DDG-51 AP	79.8
LHD-1 AP	232.0
MSH	4/196.1
AOE-6	1/612.7
TAO	2/275.5
TAGOS	3/148.1
AGOR	33.0
CV SLEP AP	83.5
LPD-4 SLEP AP	23.1
AO (JUMBO)	1/62.3
TACS (C)	2/61.1
SERVICE CRAFT	39.9
LANDING CRAFT	19.0
STRATEGIC SEALIFT	27.8
SEALIFT ENHANCEMENT	20.7
OUTFITTING	226.1
POST DELIVERY	167.8
CONTRACT DESIGN	69.4
TOTAL	11,046.2

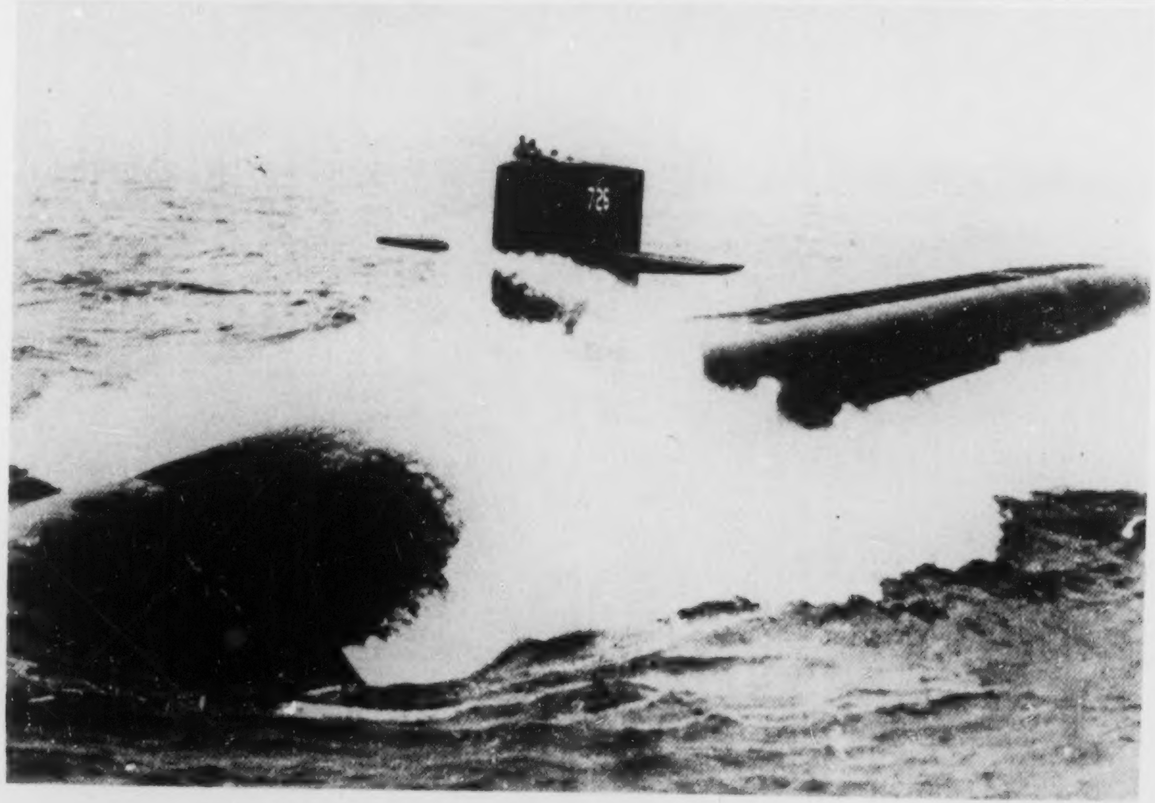
NAVY FIVE YEAR SCN PLAN

FISCAL YEAR 1987 - 1991

($ IN MILLIONS)

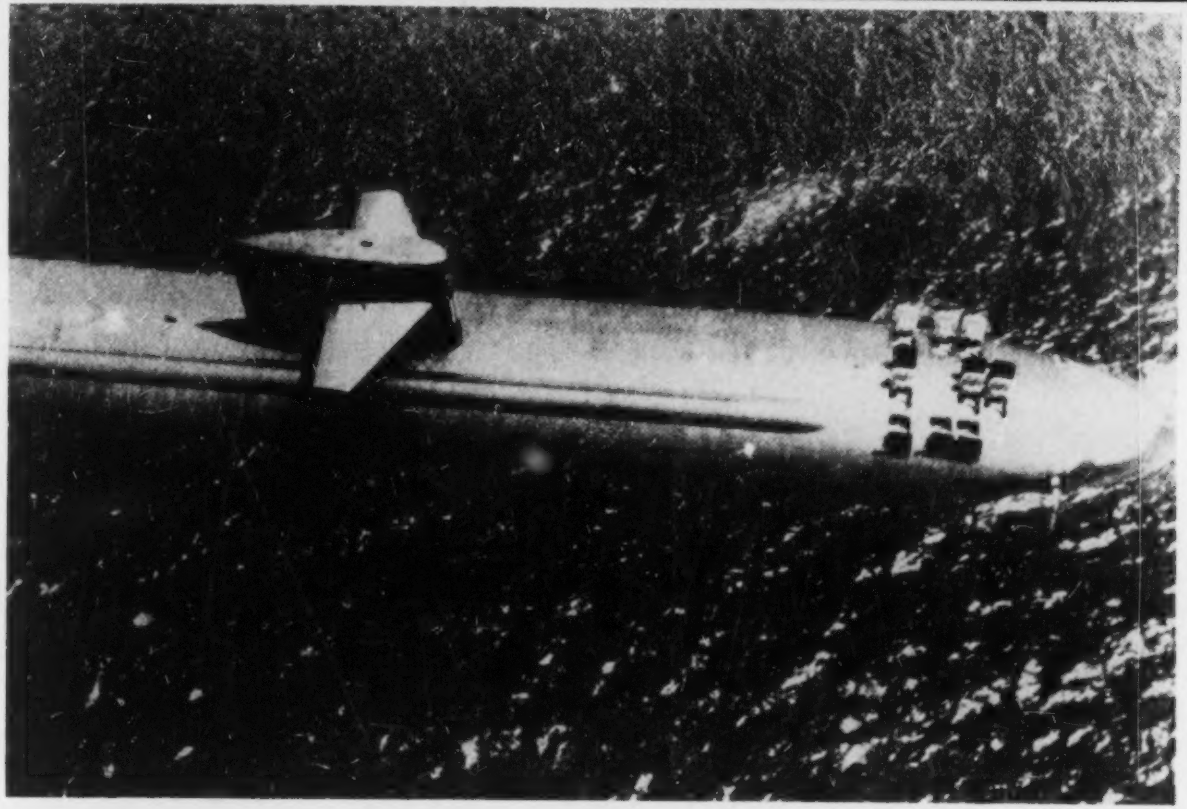
NEW CONSTRUCTION	FY-87	FY-88	FY-89	FY-90	FY-91
TRIDENT	1/1509.1	1/1516.5	1/1560.8	1/1621.2	1/1677.1
SSN-688	4/2332.6	3/2046.9	3/2200.7	4/2858.9	1/853.2
SSN-21	454.3	160.2	1/1515.1	604.7	2/2598.5
CG-47	2/1924.3	2/1902.6	2/1837.0	2/1872.4	-
DDG-51	3/2527.8	3/2354.6	3/2480.7	3/2431.2	5/3997.2
LHD-1	232.0	1/1046.9	1/705.4	43.8	1/1340.4
LSD-41 (CV)	-	1/311.2	1/281.1	1/283.0	1/293.9
MCM	-	3/272.2	-	-	-
MSH	4/196.1	4/181.8	4/183.0	-	-
TAO	2/275.5	2/319.9	2/314.0	2/318.1	2/347.4
TAGOS	3/148.1	3/193.9	2/118.7	2/117.9	-
AE	-	1/369.8	-	2/593.8	2/623.7
AOE-6	1/612.7	-	1/520.0	1/545.8	1/542.6
ARS	-	-	-	-	1/109.8
AGOR/AGX	1/33.0	-	-	2/90.5	3/110.9
LCAC	-	(9)/221.3	(9)/226.3	(9)236.0	(9)240.6
CONVERSIONS					
CV SLEP	83.5	1/544.8	155.4	155.2	1/797.4
LPD-4 SLEP	23.1	97.8	1/260.9	3/443.3	3/425.8
AO(JUMBO C)	1/62.3	1/49.5	1/71.3	2/115.6	-
TACS (C)	2/61.1	2/59.9	2/62.6	-	-
OTHER					
SERVICE CRAFT	39.9	30.2	56.4	68.5	76.1
LANDING CRAFT	19.0	60.5	84.7	72.2	44.4
STRAT SEALIFT	27.8	50.4	27.1	76.4	26.6
SEALIFT ENHANCE	20.7	18.4	22.8	21.8	21.4
OUTFITTING	226.1	286.3	275.4	270.8	303.1
POST DELIVERY	167.8	137.6	230.5	173.1	149.9
CONTRACT DESIGN	69.4	67.7	63.0	87.3	116.9
TOTAL	11,046.2	12,295.9	13,252.9	13,101.5	14,696.9
SHIP COUNT	21/3	24/4	21/4	20/5	20/4

TRIDENT SUBMARINE - SSBN



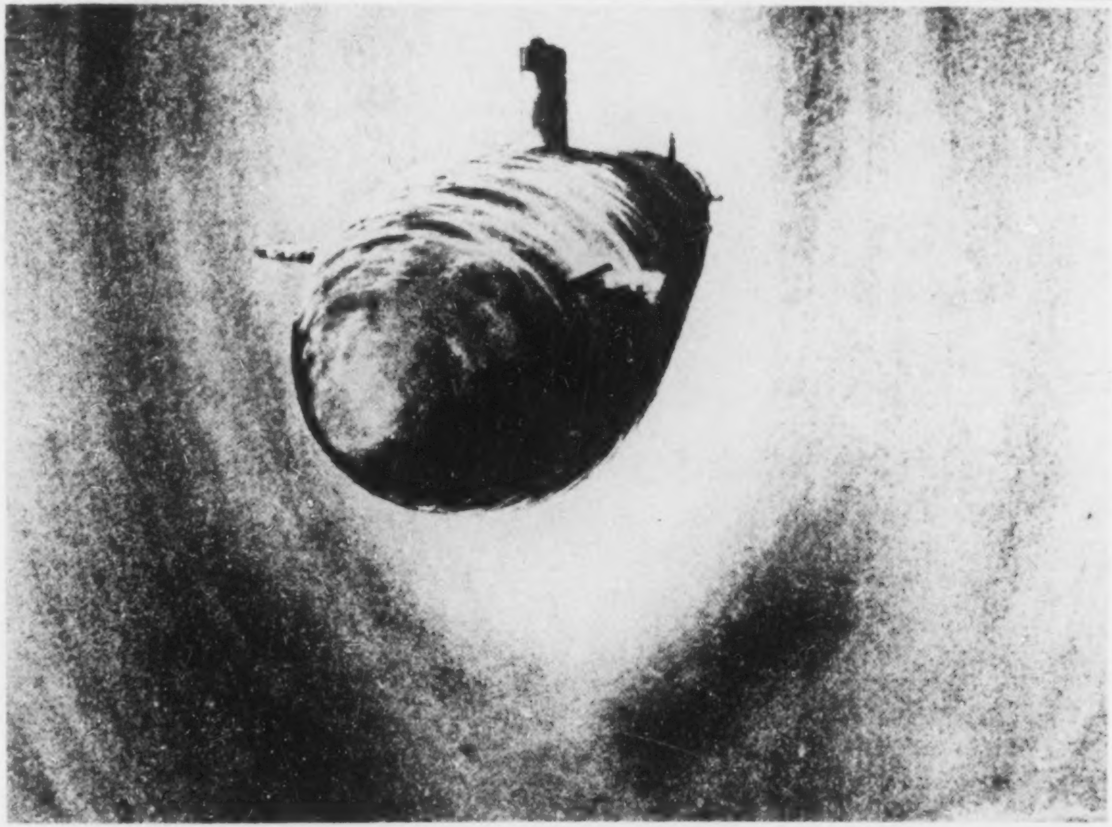
VG-9

NUCLEAR ATTACK SUBMARINE - SSN 688



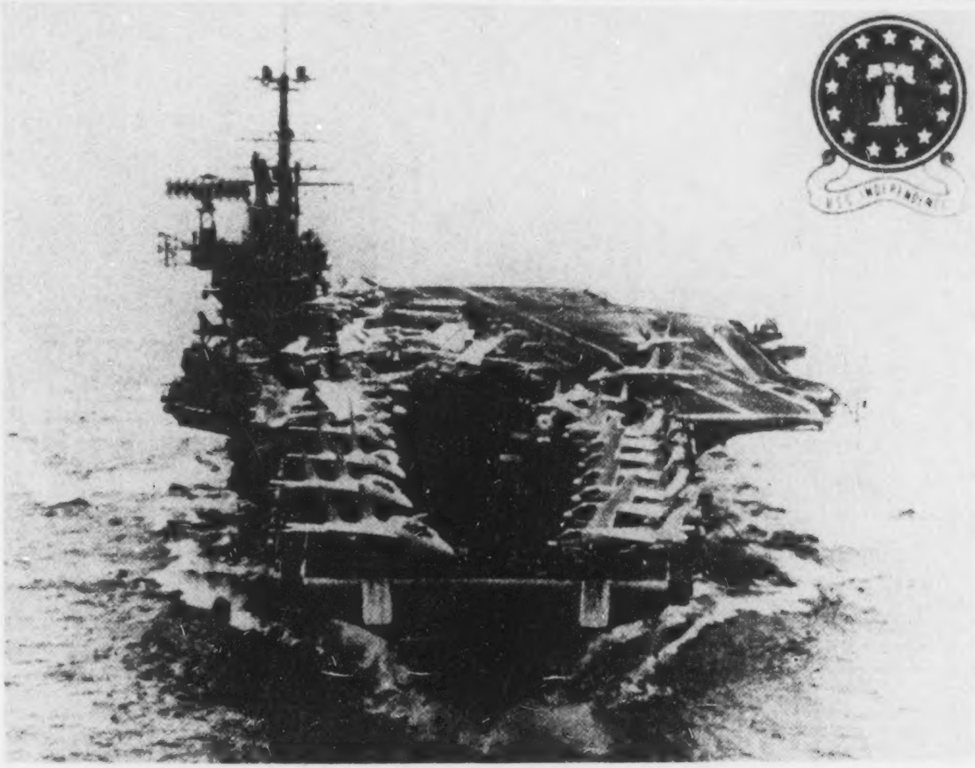
VG-10

NUCLEAR ATTACK SUBMARINE - SSN 21

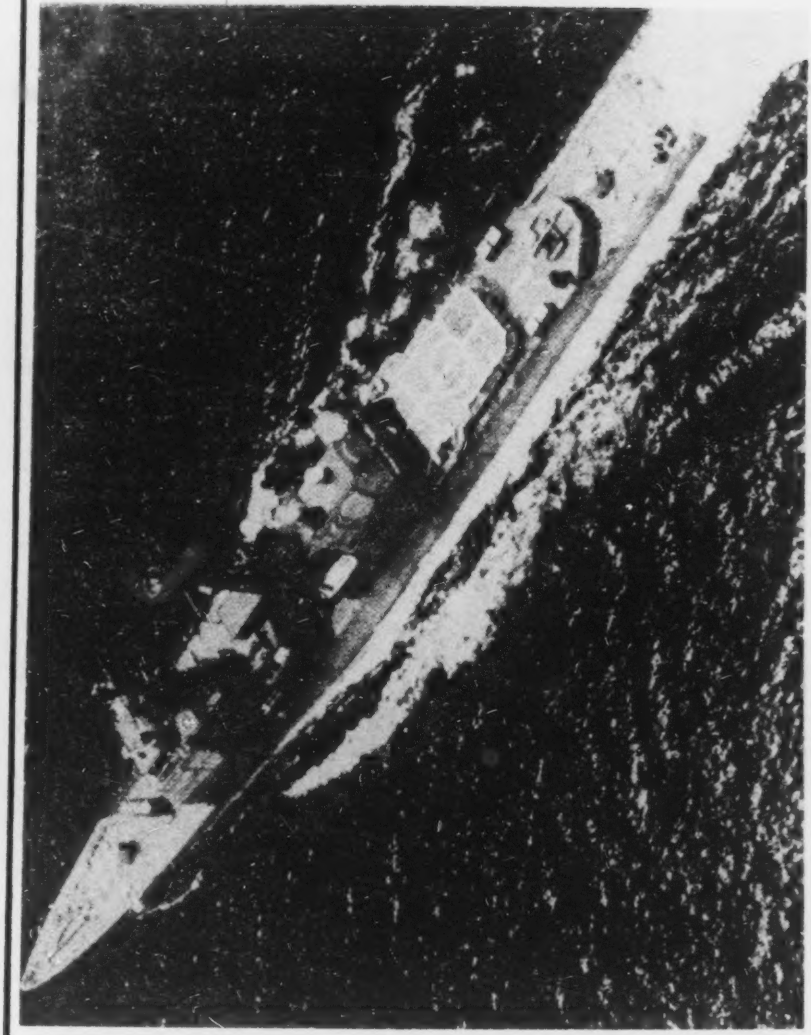


VG-11

AIRCRAFT CARRIER
SERVICE LIFE EXTENSION PROGRAM-CV SLEP

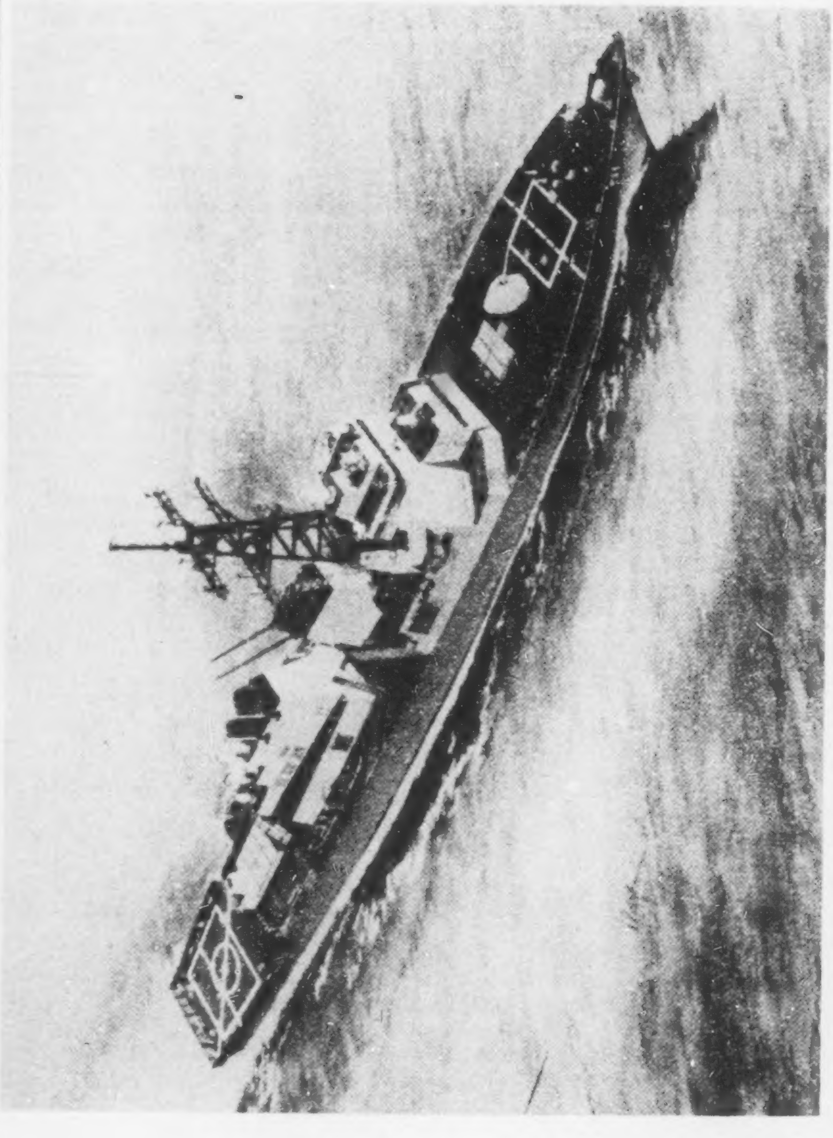

U.S.S. INDEPENDENCE

GUIDED MISSILE CRUISER-CG47



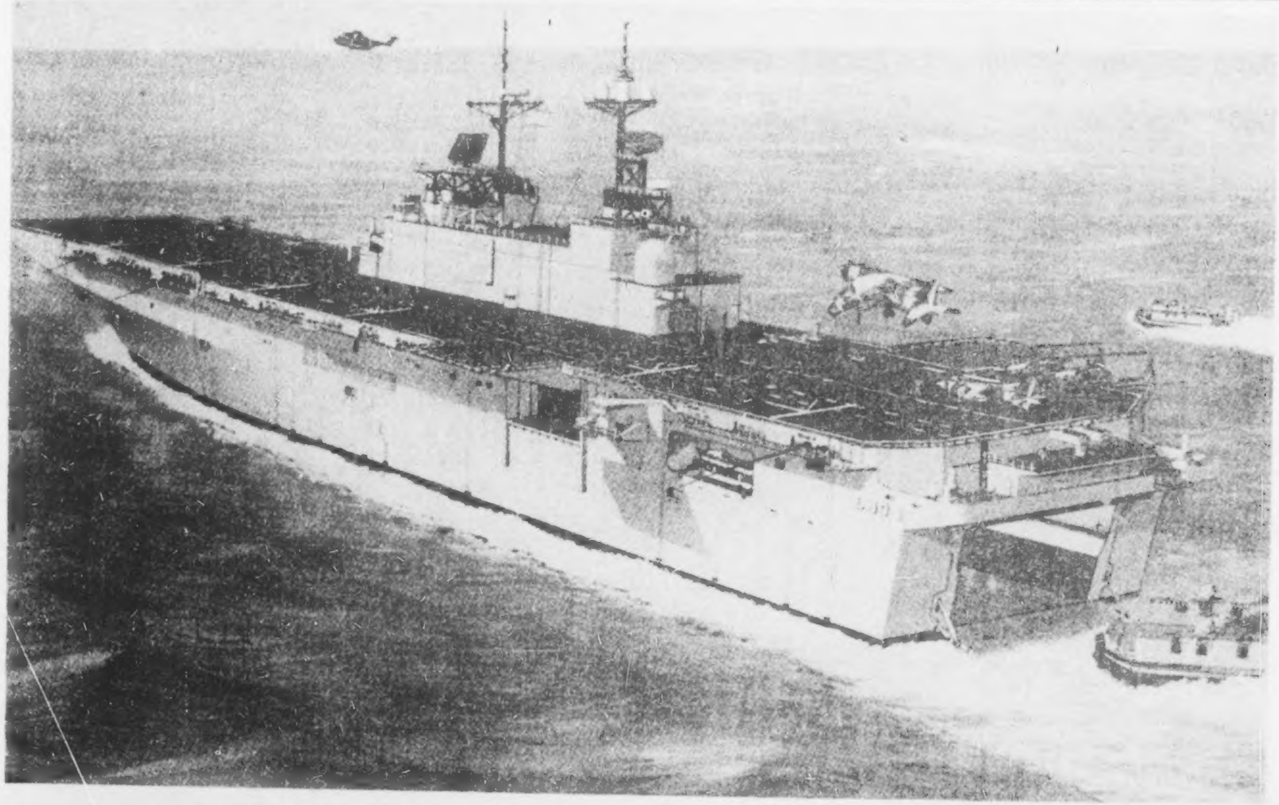
VG-13

GUIDED MISSILE DESTROYER - DDG 51

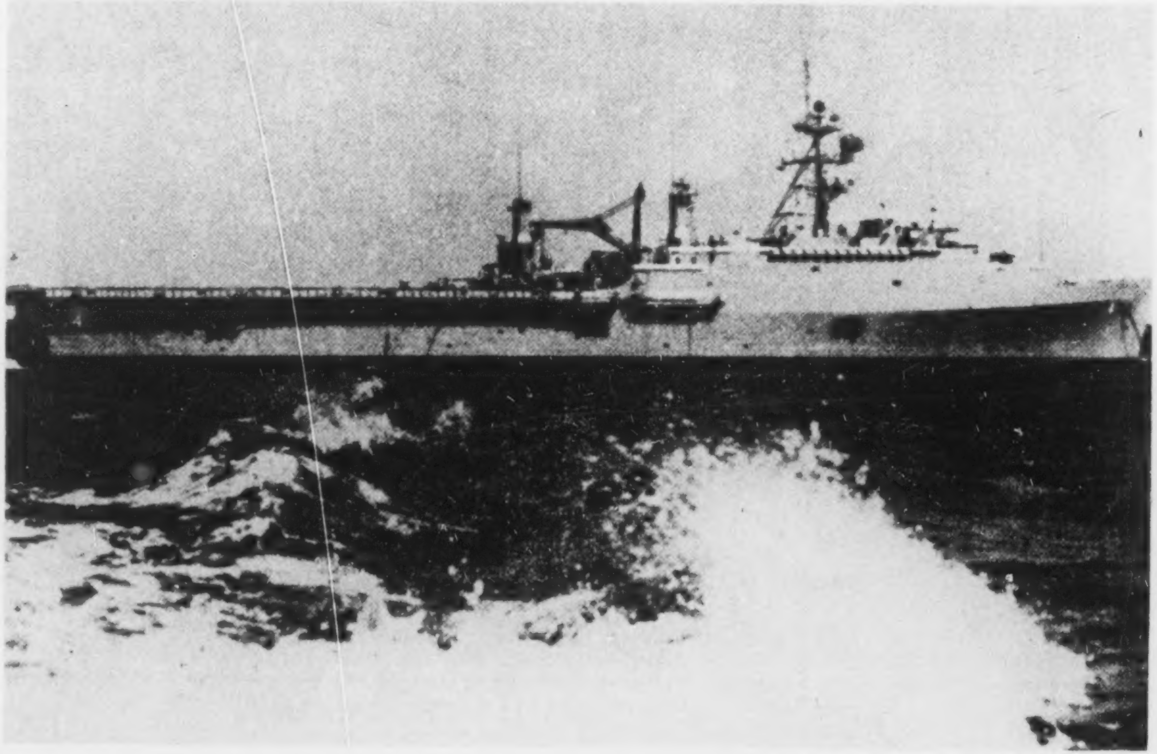


VG-14

AMPHIBIOUS ASSAULT SHIP - LHD 1

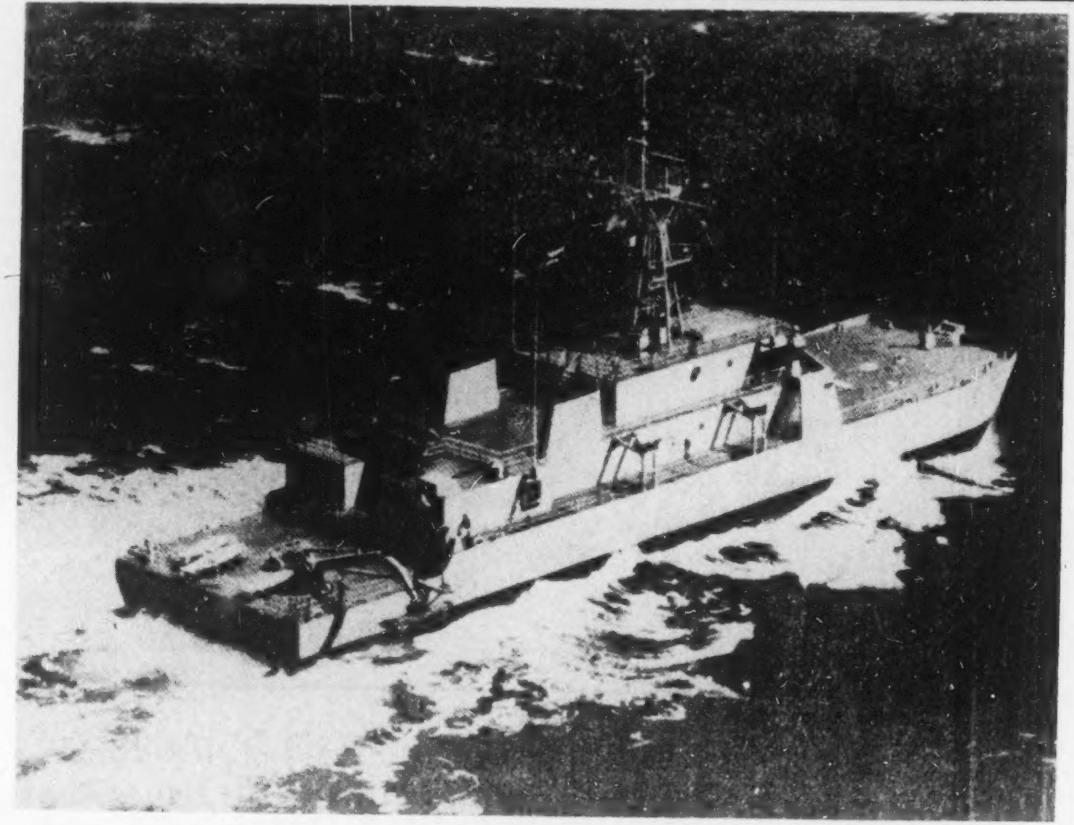


AMPHIBIOUS TRANSPORT DOCK - LPD 4
SERVICE LIFE EXTENSION PROGRAM (SLEP)



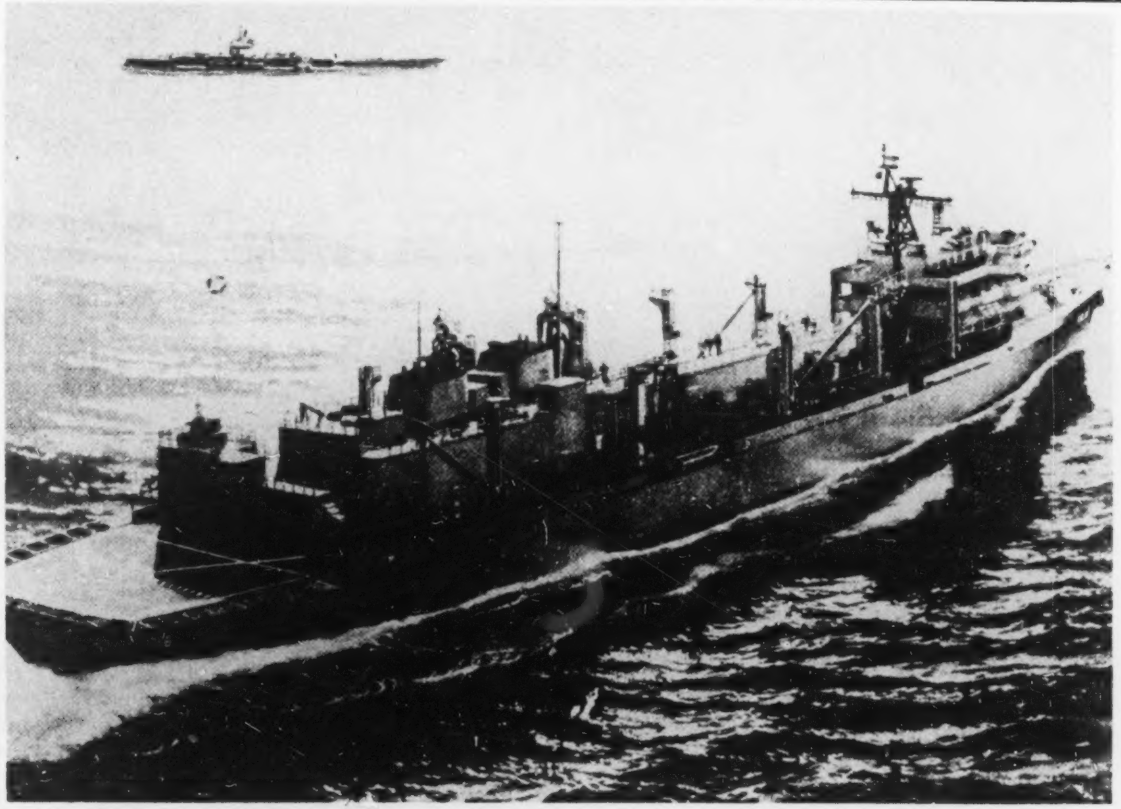
VG-16

MINESWEEPER HUNTER - MSH 1



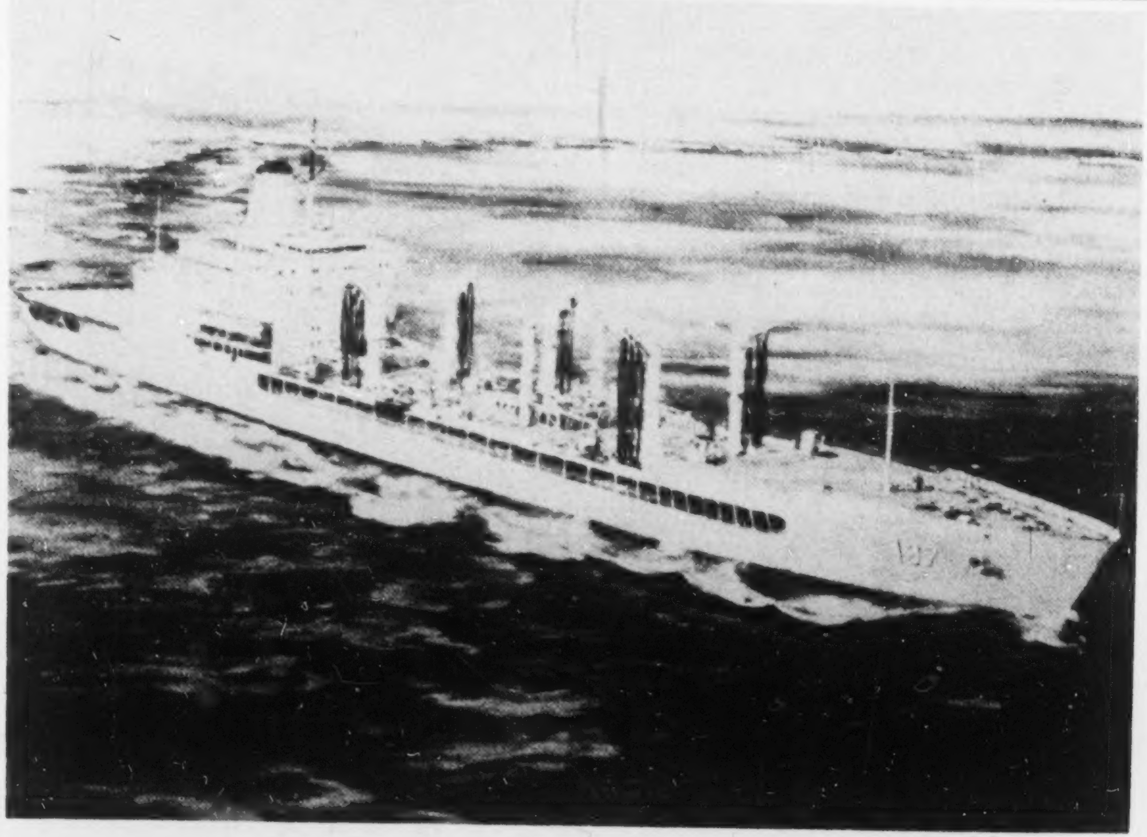
VG-17

FAST COMBAT SUPPORT SHIP-AOE 6

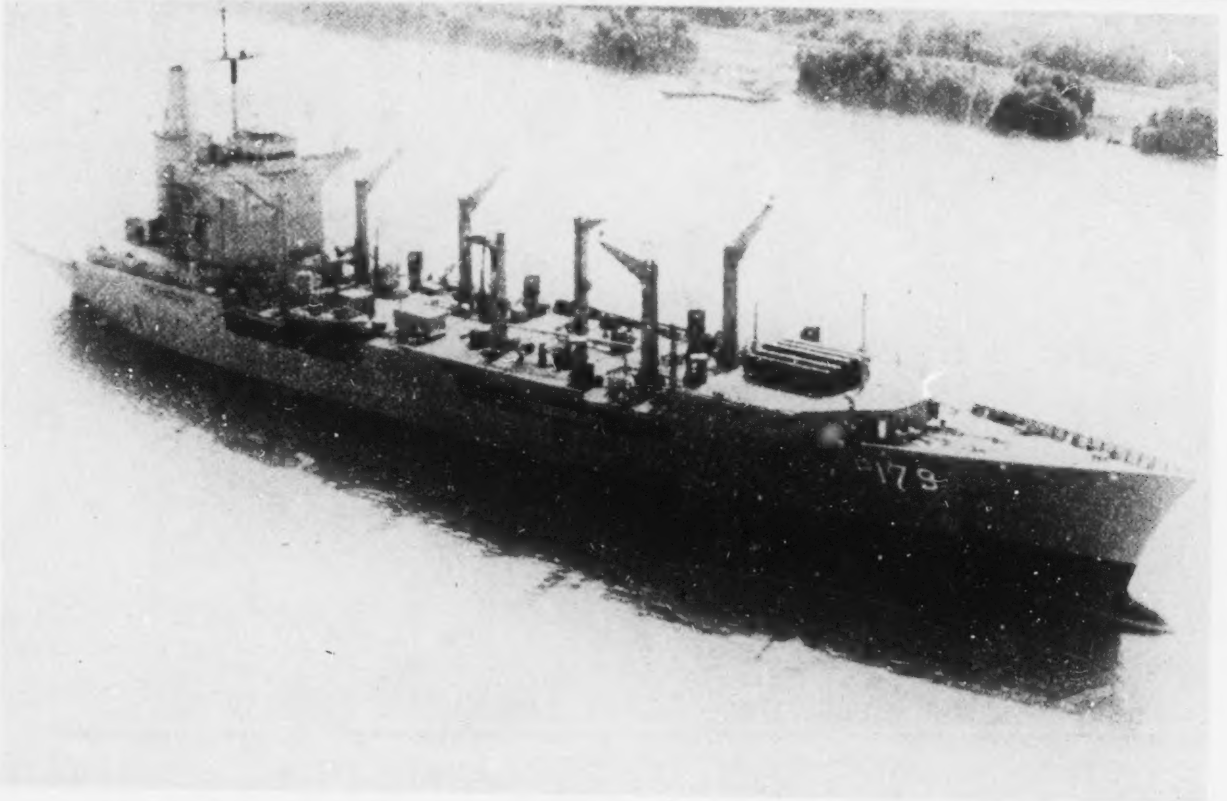


VG-18

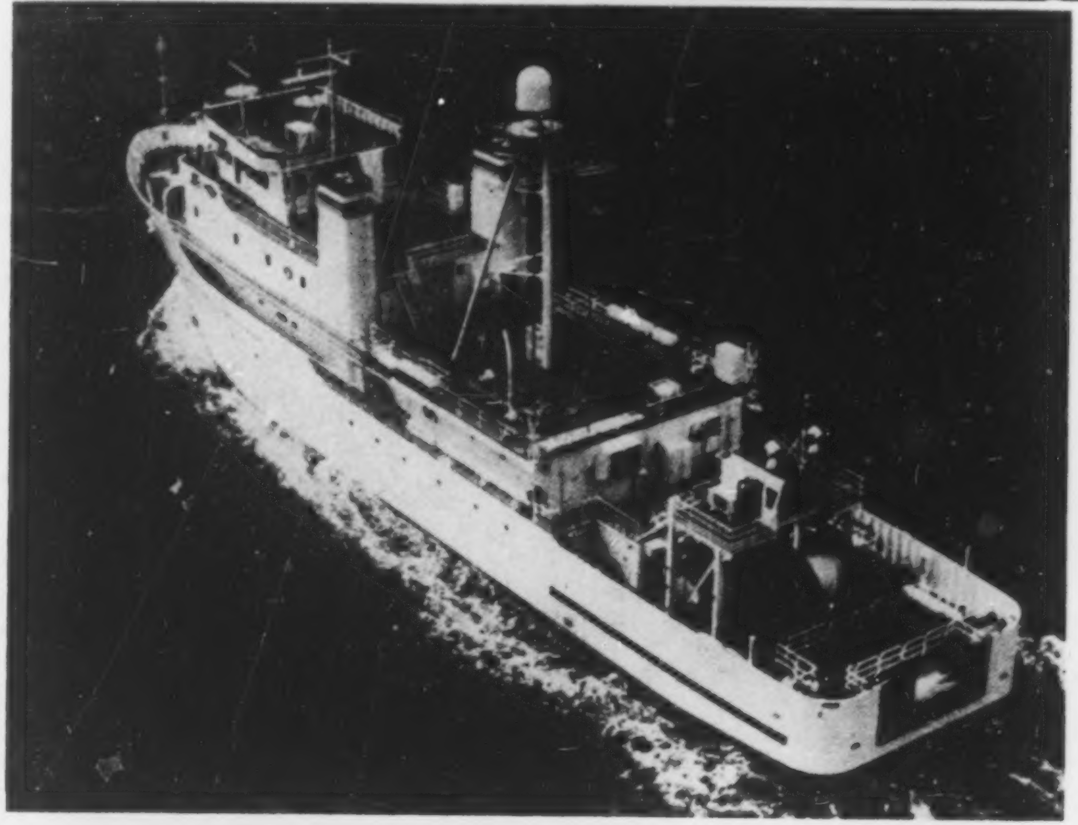
FLEET OILER-TAO 187



FLEET OILER JUMBOIZATION - AO 177



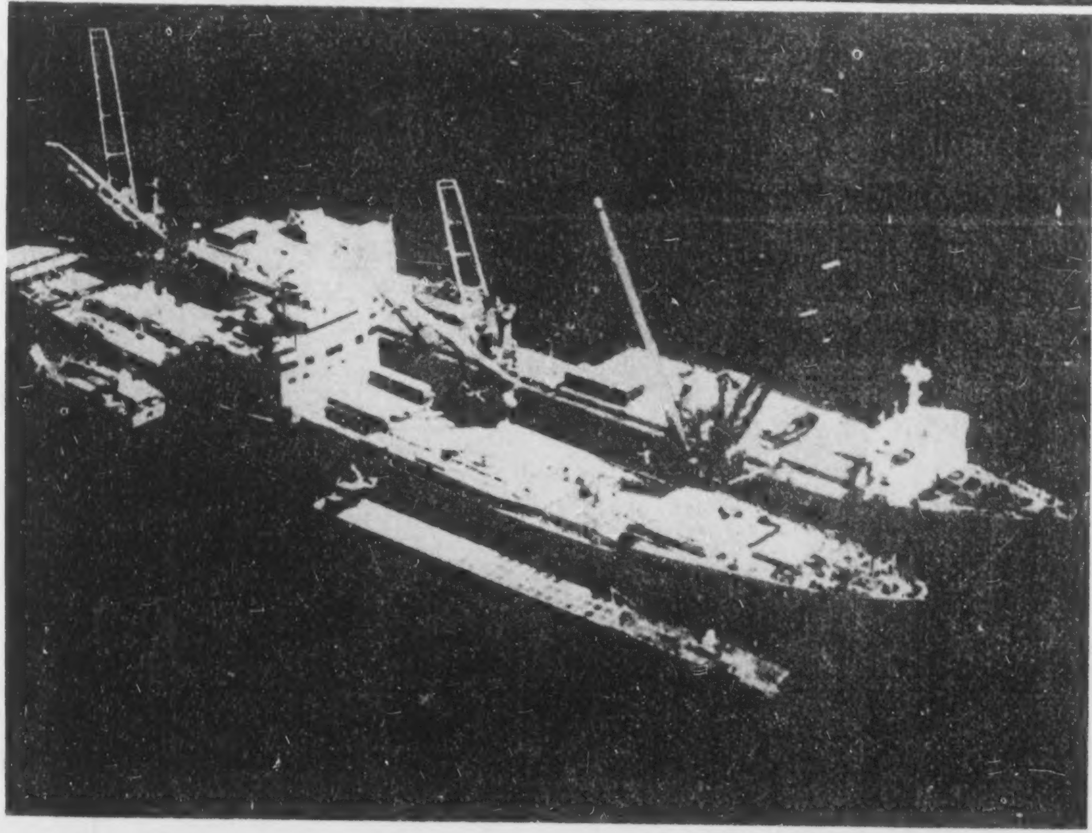
OCEAN SURVEILLANCE SHIP - TAGOS



VG-21

OCEANOGRAPHIC RESEARCH SHIP - AGOR 23

AUXILIARY CRANE SHIP-TACS



VG-23

CRAFT
($ MILLION)

SERVICE CRAFT	
TORPEDO TESTER (YTT)	1/19.0
FLOATING CRANE (YD)	3/15.9
FUEL BARGE (YON)	2/2.8
OIL STORAGE BARGE (YOS)	2/2.2
	8/39.9
LANDING CRAFT	
SURFACE WARFARE CRAFT MEDIUM (SWCM)	1/19.0

OTHER SHIPBUILDING
($ MILLION)

	FY 1987
STRATEGIC SEALIFT	27.8
SEALIFT ENHANCEMENT	20.7
OUTFITTING	226.1
POST DELIVERY	167.8
CONTRACT DESIGN	69.4
NET REQUIREMENT	**511.8**

Senator STEVENS. Admiral Rowden?

Admiral ROWDEN. I have nothing to add.

Senator STEVENS. Senator Stennis.

Senator STENNIS. I will have a few observations later.

Senator STEVENS. No questions at this time, Senator?

Senator STENNIS. No.

Senator STEVENS. Senator Proxmire.

Senator PROXMIRE. Thank you, Mr. Chairman.

CONTRACTOR PROFITS

Mr. Pyatt, the Navy released its study on defense profits last November, prepared at your request.

Mr. PYATT. Yes, sir.

Senator PROXMIRE. The study showed profits on contracts with major firms are much higher than commercial and that this trend began in 1981. Defense profits are very high by historical standards. I commend you for having the study done.

Do you agree that the data shows defense profits are too high and they ought to be brought in line with commercial profits?

Mr. PYATT. First, there are two sets of data. There are profits on sale and there are returns on assets employed.

On profits on sales there were two studies conducted. OSD did one and we did one. We came up substantially the same.

Defense profits on sales are slightly higher than commercial profits on sales. They also came out showing that return on assets employed in the defense line is much higher than in the civilian sector.

If I had known the questions were coming, I would have brought some numbers.

DEFENSE PROFITS ON SALES

Senator PROXMIRE. I have a chart right here. It shows, as you say, that defense profits on sales are higher. I would say substantially higher. They are close to 10 percent on sales for the U.S. Government, defense profits, in other words.

Commercial, on the other hand, is around eight. There is a substantive difference.

As you say, the operating return on assets is really enormous. The operating return in the private sector is around 11 or 12 percent. The operating return sales for the U.S. Government is 25 percent, twice as high.

Mr. PYATT. Yes, sir.

Senator PROXMIRE. That is a spectacular difference. It has not been that big since 1977, since they started the study. It has been much higher on assets.

Mr. PYATT. That begins with the idea that started some time ago, after World War II—I do not know the entire history—that tooling associated with production of defense materials should be funded by the Government.

Out of doing this study, the Navy initiated the policy, which has not been well received in industry, that people involved in producing goods for the Navy should do their own tooling. We believe this is a very useful way to bring the return on assets employed down to a more businesslike range.

It has a side benefit because we believe if companies have to make their own decisions regarding tooling, they will be more frugal and still produce a good piece of equipment. So, we are implementing that.

It has been implemented on several projects. It is currently a part of the solicitations outstanding on second sourcing, weapons primarily. We will continue to move in that direction.

Senator PROXMIRE. I believe this chart shows that in 1984, the last year for which we have figures, the difference is greater than it has ever been. It has been goi~~ng up rather steadily~~, the difference, since about 1981 or 1982.

In other words, it has risen from a difference of around 23 percent for the operating return on assets in 1982 and 27 percent was the return in 1984. The rise has been fairly steady.

Meanwhile, the commercial profits have gone up and down, but they have been around 10 or 11 percent. It looks as if policies instituted over the last 4 or 5 years have not resulted in bringing the return on assets down in a businesslike area. They have gone up.

Mr. PYATT. We have instituted policies to reverse that in Navy business.

NEW POLICIES

Senator PROXMIRE. What policies have you instituted to achieve that?

Mr. PYATT. To require contractions to produce the equipment necessary to support production and treat it as a cost rather than up front investment of the Government, that is then used to make profit by the contractor.

Senator PROXMIRE. These figures I have been citing are governmentwide—Army, Navy, Air Force.

Mr. PYATT. Yes, sir. In doing the Navy study, we relied on the annual reports of the companies. We have no separate data, only annual reports.

EXPLANATION OF HIGH PROFITS

Senator PROXMIRE. According to the study, the major Navy shipbuilding companies are getting very high profits, General Dynamics and Newport News. General Dynamics got profits of 44.4 percent as return on assets in 1984. Newport News got 30 percent and Litton got 76 percent.

That is quite a profit. I believe you will agree these are astronomical levels in comparison with the merchant shipbuilding which is in depression.

How do you explain these high profits and how do you justify them?

Mr. PYATT. Many of the assets employed by those companies have been furnished by local communities.

In the Litton case much of their facility was funded by Mississippi State bonds.

In the case of Rhode Island, Rhode Island Redevelopment Authority provided some of the financing. So that is included.

We have a goal we want to get the return on investment down. We want to see them invest in productivity enhancement because we think it is a reasonable thing to ask for.

GENERAL DYNAMICS PROFIT MARGINS

Senator PROXMIRE. I have to hand it to those General Dynamics people. They are something else. They have made profits every year since 1972. They have not paid taxes in any year since 1972. They are in a position where they do not expect to pay taxes until the year 2000.

Meanwhile, they are making fantastic profits and they are able to get the local community to provide the assets to operate. Mr. Crown is quite a fellow. He is the principal stockholder.

Is it not correct you had to go outside the firm to get the study done because the Navy does not have a system for collecting information about actual realized profits from its contractors?

Would you agree it would be useful to have a system so that we know what profit levels are on a regular and timely basis?

Mr. PYATT. We used an outside contractor because it was a convenient and responsible thing to use a contractor for in producing these reports. It was an identifiable end product.

We believe that relying on the annual reports for data gave an overall cross section that was useful.

OUTSIDE CONTRACTORS

Senator PROXMIRE. I think it is a good idea to go outside in some circumstances.

Would it not be a good idea for you to have the capability of following this directly with your own facilities instead of having to rely on occasional outside contractors for the study?

Mr. PYATT. I think this kind of study, given the overall, is a valuable way to do it. I am not sure that looking at contract by contract helps you to develop as good a perspective as looking at total results of Government business in the company.

Senator PROXMIRE. It is unfair for me to ask you to give me an analysis of how you can do it. Maybe it would be too costly. Maybe it would be a mistake to develop that kind of bureaucracy.

Could you for the record think about it and give us a more detailed response?

Mr. PYATT. Yes.

[The information follows:]

SPECIFIC PROFIT STUDIES

Specific profit studies of industries and corporations can be performed most efficiently at minimum cost under contract, where the purpose is a macro analysis involving base data extracted from corporate annual reports, Securities and Exchange Commission reports, and industry reports. Commercial firms have developed expertise in these macro analyses. Navy maintains a data base on profits relating to contracts, which is relied upon in the analysis of proposals and negotiation of contracts. Both management and contracting officers are served by having both the macro and micro data readily available. The development of in-house capabilities to perform periodic macro studies would require the routine collection of data and the development of specific analytical capabilities generally existent in the private sector. The duplication of macro analytical capabilities in-house is not necessary or justifiable.

INCREASE IN SUBMARINE COSTS

Senator PROXMIRE. A staff study by the Joint Economic Committee staff analyzed prices paid for the 688 class attack submarines and Trident submarines awarded during the years 1981 to 1983. The study shows that, adjusting for inflation, there was a real price increase of about 23 percent for the Trident submarine purchased in that period compared with prices for identical ships purchased previously.

According to the study, the Trident purchased in 1982 was overpriced by $92.3 million after adjusting for inflation. The study also found similar conclusions about the 688-class attack submarines awarded during that period.

How do you explain these real price increases and would you agree they account in part for the high profit given to General Dynamics and Newport News?

Mr. PYATT. I am not familiar with that study. I am not sure there were real price increases. I would like to take time to study it and understand what the prices were and look at this study.

Anytime we have to make a lot of assumptions, I cannot comment. I had not heard those numbers before.

Senator PROXMIRE. We will be delighted to make that study available to you. It was done by Richard Kaufman of the Joint Economics Committee. He has done a lot of work in that area. We will make that study available to you.

Secretary Lehman has said that your predecessor, George Sawyer, saved the taxpayer billions of dollars during his term of office. It seems to me that during that period, 1982 to 1983, the price of ships went up in real terms and profits went up on ships.

Can you show how Mr. Sawyer saved the taxpayers any money when he was in office?

Mr. PYATT. When he was in office, our shipbuilding program was 15-percent competitive. Now it is 85. A large amount of that was initiated by him. We have returned money from the budget that people previously expected to pay and this committee has used it for other purposes.

Senator PROXMIRE. You say 15-percent competitive when he went in. I saw that figure. I almost fell out of my chair when I read it. It is sensational if it is accurate. It is hard for me to believe that it is 86-percent competitive now on any kind of competitive basis that we would recognize as such.

TRIDENT SUPPLIER

For the Trident submarine you have one supplier?

Mr. PYATT. That is the 15 percent of the total that is not competitive.

Senator PROXMIRE. That is the only one?

Mr. PYATT. All the rest were awarded annually or made on a competitive basis.

Senator PROXMIRE. If you have one alternative supplier, do you consider that competitive even though you often allocate the contract between the two?

Mr. PYATT. If you mean by allocating, like the cruiser awards, we will have so many ships to award in a year. We will put out a solicitation which says we may award all of the ships to a yard or none or some number in between. Then we look at the prices involved.

We want to maintain a long-term competitive situation and split the award as we announced when we started. Sometimes the award goes to one because the other one is out of line.

Senator PROXMIRE. Thank you.

MARINER PROGRAM

Senator STEVENS. How many ships do we have in the sealift reserve now?

Mr. PYATT. In the ready reserve, sir?

It is 73.

Senator STEVENS. Are any of them manned?

Mr. PYATT. No, sir.

Senator STEVENS. How long would it take to get them out in the event of a full-scale emergency?

Mr. PYATT. Our plans call for various times of 5, 10, and 20 days, depending on the ship.

Senator STEVENS. Do you have a manning plan to make people available from the civilian service to crew them?

Mr. PYATT. Our plans consist of having general agency agreements with people who do crew the ships. Our concerns are that with the state of the merchant operators, even though there are a lot of people available, how many we could actually pull together as the number of ships get larger.

In fact, we are evaluating making some of those mannings a function of the Navy Reserve.

Senator STEVENS. There is not any ship operator that is operating that number of ships under the American flag today, is there?

Mr. PYATT. No. But there are mariners around, as you know.

Senator STEVENS. We have lots of mariners around. Unless someone can organize them and put the pegs in the round holes, you will not have much ability to operate those vessels.

Mr. PYATT. That is right. That is what the general agency agreements are about.

Senator STEVENS. How much does it cost to maintain those 73 vessels each year?

My figure is $100 million. Do you dispute that figure?

Mr. PYATT. I have used a million dollars per ship which is a little less than yours.

SEALIFT CAPABILITY

Senator STEVENS. So, the plans we have in the event of a war, and the wars we have seen in recent years have gone very fast, moving 6 days, 7 days, even if we got into something prolonged that was long in terms of modern standards of a real war, I am talking about now, not a regional conflict, but a real war, it would probably be 30 days before we could get our sealift moving; is that correct?

Mr. PYATT. Part of sealift is what is available under the American flag in operation. Part of the sealift is the converted SL–7's which are available in 4 days.

Senator STEVENS. If they were manned, they would be available?

Mr. PYATT. They are partially manned now. They are manned with the critical nucleus crew. Admiral Rowden organized that. He can describe it in more detail.

They have a nucleus crew, they only work with ships that have a nucleus crew.

Senator STEVENS. Are those civilians?

Mr. PYATT. They are civilian people on Navy ships.

Senator STEVENS. Are we hiring civilian people to sit on ships that are tied up at the dock?

Mr. PYATT. Yes, sir.

Senator STEVENS. I understand that you went over to the House and indicated the Navy did not support the Mariner Program?

Mr. PYATT. I also indicated that in front of your committee, sir.

Senator STEVENS. You did it again this year, though, since then the Secretary appeared before our committee and indicated he was in support of it?

Mr. PYATT. Yes, sir. Here is the headline on it.

Senator STEVENS. I have it right here. [Laughter.]

I have been in the position of sitting before congressional committees when I personally had other points of view.

I remember on the wilderness bill I came up and testified for it and came back the same afternoon and testified against it because I talked to a fellow named Eisenhower.

I wonder what the Navy is going to do if they do not get the Mariner Program?

What are you going to do to maintain the concept of having available operating ships with crews, the management and capability to put them to work literally in 24 to 48 hours? Where are you going to get the sealift that this country needs to meet the Navy's needs?

Mr. PYATT. I lost the beginning of the question.

OPPOSITION TO CRUISE SHIP

Senator STEVENS. How are you going to meet the needs of the Navy to provide the sealift for our other forces in the amount of time that they are needed unless we do something about it?

I understand you are even opposing the cruise ship legislation.

Mr. PYATT. Yes, sir.

Senator STEVENS. Where did you find a troop ship at the time of Grenada? Did you find one under the American flag? Did you find one?

Mr. PYATT. I do not think so.

Senator STEVENS. There is not one. The maritime power of the world in terms of naval power cannot lift the people that they are designed to protect once they start moving. We could not have any beachheads, we could not have any sealift in less than 30 days.

I just do not understand it. I have news for you. I am tired of carrying your spear on that one. I am tired of being speared by the Navy after we have tried to find a way to preserve the money to meet your needs.

Your people on the lower levels tell us of the great need and then we just get the rug pulled out from underneath us. So, the next time you hear about the Mariner Program from me, you will be asking for it; we are not going to give it to you.

Beyond that, I think we are going to have to review very seriously the request that you have made because it appears to me that there are still some savings in the shipbuilding program you have not put to work in terms of these new requests.

Why did you not ask us for the authority to carry over the shipbuilding savings that we both know are there in terms of these new requests for shipbuilding?

Mr. PYATT. I think at the time the budget was put together, we did not know. That is usually what evolves during the period of the year of execution and by the time the appropriations process comes around, we are ready to address them.

CONTRACTOR PROFITS

Senator STEVENS. I will get into that later. Let me get back to what my good friend from Wisconsin said.

I do not disagree with them about the problem of these defense contractors paying taxes. We have tried to put into effect a minimum tax concept at the very least. To a certain extent you have control over that.

Why do you not end some of these contracts?

As I understand the tax law, they do not have to pay taxes until their contract obligations are completed. But we have contracts that you are carrying over now for the last 13 years. They have not been terminated and these companies do not have to pay taxes until they are finished.

They keep getting adjustment orders and change orders to extend those contracts by their terms so that they do not have to pay taxes.

Why do you not have someone try to find a way to terminate those contracts and wind them up?

Mr. PYATT. A year and a half ago I started asking the same question. We went to the Treasury Department. They told us that the Navy having the contract concluded does not determine the tax liability.

I was going to proceed under exactly the assumptions you outlined. They said that the substantial completion of the contract determines tax liability and that is what they were putting in their regulations, by now have put in the regulation.

If I have any evidence that what I have told you is wrong, we will work at closing our contracts.

Senator STEVENS. We are going to find some way to have these people pay taxes. I think it is starting to hurt the defense effort. There is constant repeating and haranguing that these companies are not paying taxes. They ought to pay taxes. They have had substantial profits already.

I disagree with my good friend a little bit about the volume of the return because, as I understand, most of these areas, they are in are very high tech areas that require a heavy R&D investment and you require that to be after tax dollars if it is a company investment.

R&D PAYMENTS

You are not paying R&D in a company development any more, are you?

Mr. PYATT. No. Most cases we are paying the R&D.

Senator STEVENS. You are paying R&D in shipbuilding?

Mr. PYATT. We pay some R&D, but very litle. Most of the design efforts and process development efforts are company-funded programs. It is different than in other defense industries.

Senator STEVENS. I stand corrected, then. I was led to believe they were reinvesting a substantial portion of their after-tax dollars in the high-tech concept, particularly in R&D, and if they had some very high cost caused by the vacilation of support in the various entities of the program so that they carry some extraordinary expenses from year to year, that other companies would not carry.

Mr. PYATT. That is true in the shipbuilding industry.

Senator STEVENS. Those are after-tax dollars until they get them back?

Mr. PYATT. Yes, sir

Senator STEVENS. That needs to have a little study. I do believe it is time, particularly in these long-term contracts that involve billions of dollars, to have some way to ascertain when profits are made and not have them carried over into another generation.

The Senator is right. I understand some of it goes back to the 1970's, that their taxes have not yet been computed.

Is that your understanding?

Mr. PYATT. I did not have that understanding, but I am also not an expert on taxes. I explained to you what we learned when we went to Treasury trying to find out. If there is any evidence that an action of the Navy is precluding taxes, I will change it. I looked for that evidence, but could not find it.

Senator STEVENS. Senator Cochran.

Senator COCHRAN. Thank you very much, Mr. Chairman.

600-SHIP NAVY

Let me welcome you, Mr. Secretary and Admiral Metcalf and Admiral Rowden to the committee. We appreciate your cooperation with the committee.

I want to commend you for the excellent work you are doing. I think because of a lot of the initiatives that you have undertaken and the close relationship you have developed in trying to work with industry to reduce cost, you have helped make the 600-ship Navy affordable.

You make the statement in your prepared comments this morning that it is affordable now and I think it is affordable because of a lot of changes that have been made in the acquisition process and the innovations that have taken place under the leadership of Secretary Lehman and many of you who are here today. I want to commend you for it.

Mr. PYATT. Thank you.

LHD-1 PROGRAM

Senator COCHRAN. I think it is essential to our Nation's security that we have a 600-ship Navy. I applaud that effort that has been made to make it possible for you to realize that goal.

In your statement you talk about the streamlining of the acquisition process, particularly in the approval of a system level requirement. You specify a system level requirement in terms of mission performance rather than minutely detailing specifications and standards for the shipbuilders.

It occurs to me that that is a process that deserves our approval and commendation. It has to stimulate the development of new ideas on the part of shipbuilders and assist in reaching the goal that we have of a more effective Navy. We might consider adopting that approach here in Congress more often. We might study that example with some profit.

Last year approval was granted for a multiyear contract for construction of a second, third, and fourth ship of the LHD-1 class amphibious ships.

What is the status of this contract and what is your latest estimate for savings from the multiyear form of contracting in this instance?

Admiral ROWDEN. The RFP for the construction contract is out. A contract has been let to Litton Industries for a certain amount of advanced procurement. The RFP is out now and construction technical proposals have been received. An award is expected this summer.

I cannot project now, since I do not know what the returns are on that, what the savings might be in the multiyear procurement.

Mr. PYATT. We are still carrying the same projection of about an $800 million savings that we made last year. When we get the numbers in, we will revise them as appropriate and make these certifications that we have to make on the multiyear.

Senator COCHRAN. There is no question that there will be savings, though?

Mr. PYATT. Oh, yes. I think the question is the exact magnitude, but there will be savings.

SHIPBUILDING PROGRAM CHANGES

Senator COCHRAN. I notice in your statement you point out that you total up the years 1983, 1984, and 1985, shipbuilding programs come to $4.4 billion under the President's budget request.

That is not all due to cutting costs, though, or initiatives on your part, is it?

Do some of these savings result from congressional reductions or mandates?

Mr. PYATT. That is the reason I used the baseline of the President's request. This committee takes a chunk and the appropriations and authorization process sometimes takes a chunk. Some is left over. It is available for reapplication. It has been done several times.

It is a source of funds in the program that Senator Stevens mentioned in his opening remarks. It evolved over the life of the program. We have to keep track of where it is. It is the result of a lot of people, both in the Navy and in the contractors being conscious about the design activities, their buying activities, their management of the workforce, and a lot of conscientious effort.

Senator COCHRAN. I was going to say a lot of the savings are due to the fact that we are seeing a lot more attention paid by the shipbuilders and those who are working in the design area at those yards trying to reduce cost and help make these ships more affordable.

I think they are doing an excellent job, too. I know in my State I have been down on the coast, in Pascagoula, and seen the very strong efforts that are being made there to cooperate.

We appreciate your being here and appreciate your responses to our questions.

Mr. PYATT. Thank you.

Senator STEVENS. Senator Kasten.

MINE COUNTERMEASURES SHIP PROGRAM

Senator KASTEN. Mr. Chairman, thank you.

I also would like to thank you, Mr. Secretary, for the work you are doing, particularly for your continued support of the Mine Countermeasure Ships Program. I know that you made reference to that in your statement earlier. I think without question it remains a needed part of our fleet.

You and I have met together before on this program. I believe we both believe that the problems are solvable. To begin with, in the event of a conflict it is my understanding that with all of the MSH's and MCM's, only five of our current harbors could be cleared.

Is that an accurate statement? If we used all the ships, only five harbors could be cleared?

Admiral **Metcalf**. Senator, a lot of those things are scenario driven. We can certainly develop a scenario where only five could be cleared. MSO's are presently assigned to eight ports. I think it is going to be a function of how extensive the mining is and the state of training of the operators. I think that is the bottom number.

Senator **Kasten**. I am not arguing about five or four, six, or seven. Let us do it the other way.

With our entire fleet or all of the ships that we have we are woefully inadequate in terms of the ability to clear harbors that would need to be cleared.

That is a correct statement, is it not?

Admiral **Metcalf**. I think totally and woefully inadequate is the extreme. We are certainly on the margin. We think we can put this thing together at a risk relative to the assets, dollars available and the port opening we have to do.

Our program is designed not only with our own requirements in mind, but those of the allies and with the U.S. Navy working with NATO. They are much better at that sort of thing than we are. So, we balance the whole thing out and that is really what you are looking at.

Senator **Kasten**. Mr. Pyatt, both contractors for the ships are being required to deliver a bond with their bids for the 1985 ship award. I would think that putting in a requirement for a bond would influence how the two companies bid on the contract.

How long ago was it when the original proposals were submitted?

Mr. **Pyatt**. Quite a while. I am not sure, but maybe a year. The bond request requirement on our part was part of the recent round of allowing the companies to reprice. It was a direct result of our uncertainties about where they thought they stood and the lack of progress they made in the last year.

Senator **Kasten**. That is the thrust of my question.

BOND REQUIREMENT

Why has the Navy established a requirement for a bond without stating previously that there was a need a year after the original?

Why do we do it now after the original bids were submitted? Is this not unusual?

My understanding is that none of the 1982, 1983, or the 1984 include such a requirement.

Is that your understanding?

Mr. **Pyatt**. That is true. In retrospect, we had more confidence in their ability to produce on schedule than the actual events would support. So, putting the bond in was an attempt to be sure they understood what they were proposing, projecting to us.

Remember, we are in a situation we had to come back on these programs for $100 million cost growth and it is the only shipbuilding program with that problem. So, it is unusual.

CONTRACTS FOR MINE COUNTERMEASURE SHIPS

Senator KASTEN. Does the subcommittee have your assurance that these shipbuilders will receive contracts in the near term?

Mr. PYATT. As I have testified many times, we need mine countermeasure ships. The Navy would like to build them. I am hopeful the contractors will give us proposals that we can live with.

Senator KASTEN. What kind of time frame are we talking about?

Mr. PYATT. I have forgotten the exact schedule.

Senator KASTEN. How do you plan to proceed with the 1986 contract awards?

Mr. PYATT. That is related to how we wind up with the 1985's. They all go together and how we wind up with getting the cost growth money issue resolved that this committee led in getting appropriated. We still cannot spend it.

We will probably be in a situation of not being able to start work because we do not have the money.

Admiral ROWDEN. In April or May we plan on being able to go forward with the program to award additional ships in the MCM Program, the first group of three fiscal year 1985 ships.

Senator KASTEN. Just three?

Admiral ROWDEN. Yes. The fourth fiscal year 1985 ship will be awarded with the two fiscal year 1986 ships for a total of three in the next award.

Senator KASTEN. I want to say, No. 1, I thank you for working with us and I intend to continue to work with you to, No. 1, solve the problems, and No. 2, to continue to produce the ships that are clearly needed.

There are other questions, Mr. Chairman, which I would like to submit for the record, but just want to assure the Navy that I want to work with you toward both goals, No. 1, producing the ships, and, No. 2, being sure that we are within the cost and other limits which you have established.

I think that this bonding requirement could create some problems and the fact that it came on late could also create some problems. We can go into more detail about that in questions which I intend to submit for the record.

Thank you.

Senator STEVENS. Senator Stennis.

LHD-1 PROGRAM

Senator STENNIS. Mr. Chairman, I mentioned some questions I have. I want to ask them now.

Money was provided last year for the first new LHD-class amphibious assault ship, which also included funds for multiyear procurement.

It is my understanding that there is no actual procurement money requested for the second ship of his class in this year's budget, but that it is the Navy's plan to request the next ship in fiscal year 1988.

Is that correct?

Mr. PYATT. In this year's budget there is long-lead money for the next two ships, the 1988 and 1989 ships. When we put the program together, we thought it was best to have some time between the first and follow-on ships so that the shipbuilder could get his process under control before we went into the other construction.

So, there is money. It is $232 million for long-lead money on the second and third ships.

Senator STENNIS. Did you ever submit the Navy's plans for completing this program?

It is important to both the Navy and the Marine Corps. I know this took some time and I had understood it was one of the more important new ships you had coming along, within this class, anyway.

Mr. PYATT. Yes, sir. I think there is a total of five LHD-class ships contemplated, through the 5-year defense plan although others come along at later times.

Senator STENNIS. There has been nothing that happened to impair the value and the expectation desired about the ship. It is just some delay; is that correct?

Mr. PYATT. We are on our original plan. We are still executing the original plan as presented to Congress.

Senator STENNIS. You consider you are on it now and you expect to continue?

Mr. PYATT. Yes, sir, subject to the appropriation of funds.

SSN-688 PROGRAM

Senator STENNIS. You have a budget request this year of $2 billion for procurement of four SSN-688 nuclear submarines and $454.3 million for advance procurement for the new SSN-21 submarines.

In addition, there are requests for $256 million for SSN-21 development.

Please tell the committee now the status of these important programs and particularly how the Navy plans to handle the SUBACS combat system for both the SSN-688 and SSN-21.

I understand there have been problems with this system. Do you anticipate any delay here in either of these programs as a result of the SUBACS problem? Please spell that out, if you will.

There is no shipyard I am interested in. We do not produce these in the area where I live.

Admiral ROWDEN. There is a request for advanced procurement materials this year and also request for research and development. There are two programs that are going on simultaneously for this ship.

The advanced procurement covers a large part that is for nuclear components; $266 million is nuclear components for that ship.

Then there is $121 million required for detailed design. You may recall that the contract design money changes from research and development money this year to shipbuilding money but not for this particular task.

There also is $26 million required for some hull mechanical and electrical equipment for the ship. This is advance procurement for the ship to be authorized in 1989.

In addition to that, there is $300 and some odd million required for research and development for the ship. The preponderance of that is for SUBACS, the system you mentioned in your question.

There are also some dozen or so other research and development efforts that are going on and have been going on sometime for that ship. For example, in the propulsor, in planning the ship, in [deleted] in making the ship safer at deep depths and things of that nature.

REDUCTION GEAR

For example, there is a new reduction gear for this ship, a smaller, [deleted] reduction gear that is being installed in a submarine this year for further tests, being installed at Mare Island for further tests. Things of this nature have been going on for some time and will go on for some time.

In the specific case of SUBACS, which is the combat system for the submarine, there have been considerable problems with that program. The most recent effort has been to cap the contract.

The contract was successfully capped, in accordance with congressional direction on February 2, this year, at $1,034,000,000. This was to produce the system which is the predecessor system to the SSN–21 which will be installed in some of the SSN–688's still under construction, the first ship being the SSN–751 due to deliver in late 1987, as I recall.

The purpose of capping the contract was to get our arms around both the technical issues and the cost issues associated with that combat system for those ships and permit delivery on time with a capability.

We believe that we have structured a contract permitting us to do that, sir.

Senator STENNIS. I thank you very much for that explanation.

You think it is on its way?

Admiral ROWDEN. We feel it is on its way all right. We feel it is going to require a considerable continuing amount of effort on our part.

Senator STENNIS. Mr. Chairman, I have some other questions. I ask unanimous consent that they be inserted in the record for answer.

Senator STEVENS. Yes, sir, we will be pleased to do that.

PREPARED STATEMENT

Senator STEVENS. Senator D'Amato, do you have a statement?

Senator D'AMATO. Yes, Mr. Chairman. I have to preside at 11 o'clock. I would like to present a statement for the record.

Secretary Pyatt has done an outstanding job, as well as Admiral Metcalf and Admiral Rowden. I thank them for their cooperation and wish them continued success. It is not easy. Despite all the problems of the budget, they are doing a tremendous job.

Mr. PYATT. Thank you.

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I welcome here today the Honorable Everett Pyatt, Assistant Secretary of the Navy for Shipbuilding and Logistics, a man with whom I have worked closely, and Vice Admiral J. Metcalf III, U.S. Navy Deputy Chief of Naval Operations Surface Warfare. I look forward to their testimony.

I have been, and continue to be, a strong and vocal supporter of strengthening our naval power by increasing the number and quality of our naval vessels. I commend the fine work you gentlemen have accomplished toward the goal of a 600-ship Navy. I am concerned, however, that the new Gramm-Rudman-Hollings deficit-reduction law will have a negative impact on this effort. Although the 600-ship Navy has come under some criticism, it must be remembered that our Navy had almost 1,000 vessels in 1964. This level, of course, had dropped below 500 by the late seventies.

The dramatic growth of Soviet naval forces highlights the importance of a stronger U.S. Navy; the Soviet navy is the largest in the world. Although we maintain a technological edge, the Soviets are making great strides in advanced submarine production and mine-warfare capabilities. In short, Soviet naval power is becoming one of the gravest defense challenges we face.

One area of particular concern to me is our minesweeping and mine-countermeasures capabilities. New York City is scheduled to receive the Battleship *Iowa* and six support ships beginning in 1986. The Navy has put much emphasis on the dispersal of our expanding fleet to avoid the bottling up of our ships in a few major ports. I wholeheartedly support these efforts, but they are in vain if we fall behind on our minesweeping and mine-countermeasure capabilities. Mine countermeasures ships are an integral part of our defense of our ports. I strongly urge the Navy to make their production a high priority.

In addition, I foresee serious problems for our shipbuilding and ship-maintenance capabilities. I am especially concerned that we will not have an adequate number of fully operational shipyards during a wartime mobilization to support the 600-ship Navy. Because the Navy is the major customer, many shipyards are experiencing very lean times. This particularly is true for the smaller yards. If too many shipyards go out of business, we will be forced to go overseas or to go without. This, of course, would be totally unacceptable during a period of active hostilities.

This year will be a watershed year for defense spending. I look forward to working with both of you as the budget process progresses.

Thank you, Mr. Chairman.

COMPETITION OF CONTRACTS

Senator STEVENS. Thank you very much.

Senator Proxmire.

Senator PROXMIRE. Mr. Pyatt, I am not going to ask you to respond now, but for the record, would you show in detail how you got competition from 15 percent to 86 percent or how the Navy did, how it was done?

I think this is a phenomenal success story if you can begin to believe the figures. If we could apply that elsewhere in Government, we could save a bundle.

If you can give us that in whatever detail you like, I think it would be most helpful to us and the Congress and also along the way, if you could carefully define precisely what you mean by competition as compared with negotiations?

Mr. PYATT. I also would like to say every place we look we are trying to add competition. We are trying to add it in missiles production. This committee supported us last year in bringing in second source production, getting started with second source production in the SM-2 PHOENIX.

I have set a goal for nationwide competition to be 51 percent in this year. I do not know whether we will make it or not, but we will have fun trying.

Senator PROXMIRE. H.L. Mencken defined a cynic as the kind of guy that when he smells flowers, he looks around for a casket.

You smell the flowers and they smell beautiful, but it is very hard for me to believe. I would like to see it and I think it can be very, very helpful to us.

Mr. PYATT. We will try that, sir.

[The information follows:]

COMPETITION IN SHIPBUILDING

A contract award is considered to be made on the basis of competition if two or more bids are received or if an option is exercised on a contract that was awarded competitively. In order to maintain competition throughout the life of a program, when economically realistic, we split the number of ships between at least two shipyards on the basis of price. However, if one bidder is grossly out of line on price, we will award the entire fiscal year quantity to one of the other bidders. This ensures that a shipyard will tend not to take advantage of our dual sourcing policy and generally results in the loser taking steps to improve his competitive posture for the next year's procurement.

The Navy has significantly increased procurement competition since fiscal year 1982 as shown by attachment (1). Included in these figures is an increase in the percentage of new construction shipbuilding dollars awarded competitively from 15.7% in FY 1980 to 85.6% in FY 1986. The Trident Submarine was the only ship not awarded competitively in either FY 85 or FY 86. Steps are being set in place to bring competitive market conditions to this program. Attachment (2) shows how this increase was achieved:

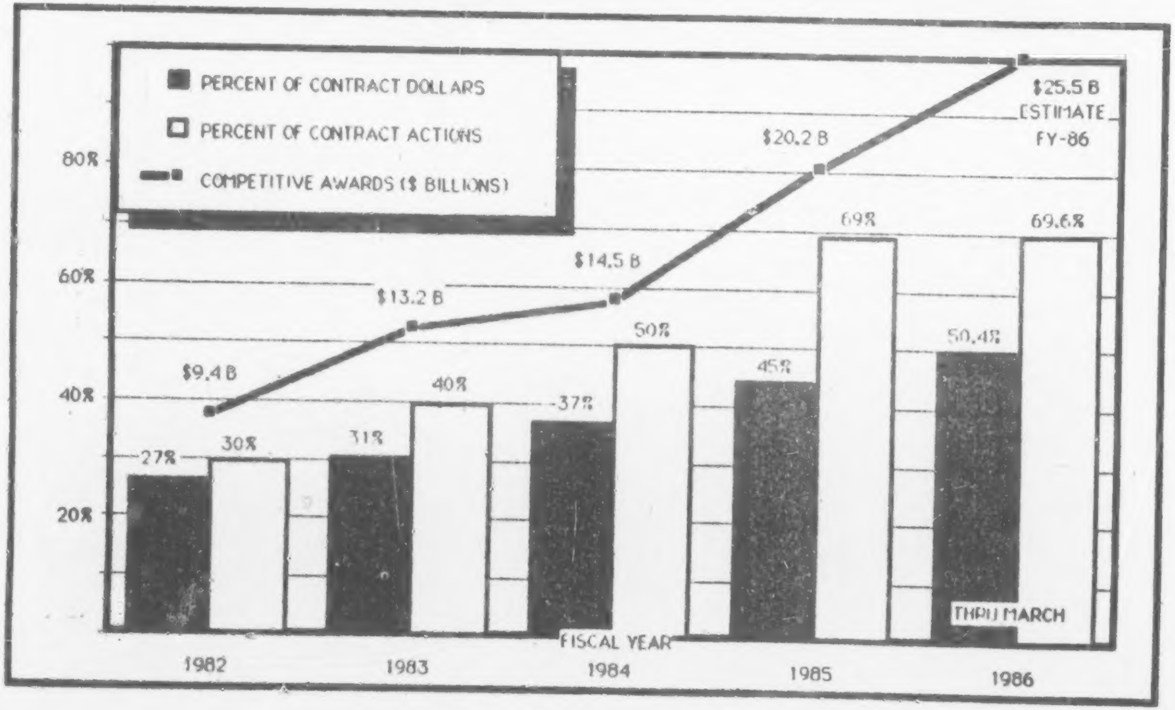
Fiscal Year	1980	1981	1982	1983	1984	1985	1986
Ships Competed	6	14	18	9	19	23	27
Ships Not Competed*	5	5	5	7	3	1	1
% Ships Competed	54.5	73.7	78.3	56.3	86.4	95.8	96.4
Dollars Competed ($B)	1.1	2.5	3.0	3.1	6.9	8.6	9.1
Dollars Not Competed ($B)	5.6	4.0	4.4	11.4	3.3	1.6	1.5
% Dollars Competed	15.7	38.7	40.3	21.2	67.4	84.3	85.6

* Ships Not Competed

FY80	FY81	FY82	FY83	FY84	FY85	FY86
Trident SSN (2) CVN 71 CG 48	Trident SSN (2) CG 47 (2)	SSN (2) CG 47 (2) LSD	Trident CVN 72/73 CG 47 (3) LSD	Trident LHD FFG	Trident	Trident

Enclosure (1)

DEPARTMENT OF THE NAVY
PROCUREMENT COMPETITION PERFORMANCE



Enclosure (2)

REVOLVING DOOR

Senator PROXMIRE. As you know, your predecessor, George Sawyer, left the Navy to take a high-paying position with General Dynamics after being involved in the award of contracts to the company totaling $6 billion.

In my view, this is one of the most blatant examples of how the revolving door works. It creates an appearance of conflict of interest because it gives rise to suspicions of favors to a future employee while he is in the Pentagon.

Would you do the same thing as Mr. Sawyer?

Mr. PYATT. First of all, I know Mr. Sawyer pretty well and I do not accept any of those characterizations.

I have been a Government employee all my professional life. I have worked on so many controversial problems that I do not know anybody who would employ me and I do not care. I am favorably committed to doing what I am doing now for as long as it will take and as long as the President will have me. After that, I will worry about it.

Senator PROXMIRE. If there is anything inaccurate, I would like to hear it. He was involved in the award of $6 billion in contracts to General Dynamics.

Is that not correct?

Mr. PYATT. Involved in——

Senator PROXMIRE. He had a say in who would get them and how big they would be and how they would be handled, did he not?

Mr. PYATT. Under the general oversight responsibilities of the office. I was really responding to the characterization of feathering his nest. That seemed to be a little——

Senator PROXMIRE. He left the Pentagon after those awards and he got a big job with General Dynamics.

Have you discussed employment with General Dynamics?

Mr. PYATT. I have not discussed his employment with anybody.

GENERAL DYNAMICS

Senator PROXMIRE. Last year while General Dynamics was under suspicion following indictment of several former and current officials, the Navy extended the time for submitting a proposal on a pending submarine contract.

Didn't this action nullify the effectiveness of the suspension and isn't this an example of favoritism practiced with large contractors, General Dynamics in particular?

Mr. PYATT. We did that before we knew exactly what the indictment was about. We knew defense policy. We were very concerned that it would be taken out of the competitive environment and have to deal with Newport News sole source. That is a situation we did not want to be in.

There are only two submarine producers in the United States. We thought it was better to put off the competition until we were sure we could be in a competitive environment and not have to deal sole source.

Senator PROXMIRE. I want to come to that competitive environment with respect to the Trident. But let me ask you this.

As I understand, the latest action of suspension was lifted with an agreement that there would be no further suspension for actions in the past even if there were new indictments of General Dynamics.

Is that not another example of favoritism toward General Dynamics and the double standard that exists with large and small contractors?

Mr. PYATT. The agreement said there would be no further suspensions if they proved the action resulting in the indictment had been covered in the long list of things they were working on. If this was outside of that, they could be resuspended.

If they do not fulfill their responsibilities under the agreement, they could be resuspended. There is no promise not to resuspend them.

Senator PROXMIRE. Does the agreement cover all past actions?

Mr. PYATT. Not all past actions. Past actions resulted in something that was an indictment and indictment resulted, if they have not covered and reformed their company in that particular regard, there would be another suspension.

Senator PROXMIRE. Do you know there are several criminal investigations of General Dynamics underway now?

How do you respond to criticism that by lifting suspension, the Pentagon gave away important leverage; for example, that the Justice Department could have used in its investigations?

Do you know whether the Justice Department was consulted before the suspension was lifted?

Mr. PYATT. I am sure it was not. However, there is written into the agreement the pledge to cooperate fully with all investigations.

If they do not cooperate, they will be resuspended again. I think that is pretty important leverage.

Senator PROXMIRE. I wonder if that is as effective a leverage as it could be to the Justice Department who are experts in this area and have to deal with this kind of situation and make compromises. That consultation would have been helpful.

Suppose it is learned that one of the current investigation officials are guilty of misconduct that is not now suspected. In that case the Pentagon would have given leverage of suspension and gotten nothing in return, would have agreed to given up suspension on the asssurance that efforts are now being taken to prevent recurrence of misconduct, only to learn there was misconduct.

It was not known and current changes in the company will not prevent it from recurring.

Mr. PYATT. If current changes do not prevent it from recurring; in other words, we did not have the foresight to list on that list of items, they could be resuspended.

GENERAL DYNAMICS AGREEMENT

Senator PROXMIRE. Will you give us a copy of the agreement with General Dynamics and relevant documentation?

Mr. PYATT. Yes, sir.

[The information follows:]

AGREEMENT
BETWEEN GENERAL DYNAMICS CORPORATION
AND
THE DEPARTMENT OF DEFENSE
COVERING PROVISIONAL TERMINATION OF SUSPENSION
AND
ESTABLISHMENT OF A CONTINUING SURVEILLANCE PROGRAM

1. On December 3, 1985, the Department of the Navy (Navy) suspended the General Dynamics Corporation (GD) from contracting with any agency in the executive branch of the Federal Government. The suspension was based on the indictment of GD and four of its current or former executives for allegedly defrauding the United States in charging costs to contracts with the Department of Defense (United States District Court for the Central District of California No. CR-85-1123, filed December 2, 1985). The policy set out in the Federal Acquisition Regulation (FAR) is that suspension and debarment actions are discretionary to be imposed for the Government's protection, not for purposes of punishment.

2. The Navy and GD have had extensive discussions about GD corporate and division policies and practices. As part of these discussions, GD and the Navy have identified actions to be taken by GD.

3. The Navy, on behalf of the Department of Defense, will terminate the suspension of GD and establish a program of continuous surveillance of GD as of the date of last signature of this Agreement and will not resuspend GD provided all of the following conditions are met. Failure to meet any of these conditions or to perform any of the actions identified in the Annexes and this Agreement within the time specified will constitute an independent cause for suspension or debarment of GD.

4. GD will:

(a) complete the actions described in Annex I on or before the dates shown on Annex I in a manner satisfactory to the Assistant Secretary of the Navy (Shipbuilding & Logistics);

(b) complete the actions described in Annex II on or before the dates shown in Annex II in a manner satisfactory to the Assistant Secretary of the Navy (Shipbuilding & Logistics);

(c) report monthly to the Assistant Secretary of the Navy (Shipbuilding & Logistics) on actions under (a) and (b);

(d) ensure that GD's performance under this Agreement is monitored by the Committee on Corporate Responsibility of the GD Board of Directors;

(e) during the term of this Agreement, provide the following classes of documents to the Department of Defense, including the administrative contracting officer and the resident DCAA auditor in each division: all

(1) internal audit reports; (2) independent audit reports; (3) management effectiveness review reports; and (4) contract compliance review reports (generated between January 1986 and December 1990). The foregoing documents shall not include those which are covered by attorney-client and attorney-work product privileges and exceptions, nor those which do not relate directly or indirectly to defense contract operations. To the extent that such documents are covered by attorney-client or attorney-work product privileges and exceptions, GD will timely report to the Department of Defense on any matters identified in such documents which indicate violations of contracts, statutes, regulations and the GD Standards of Conduct;

(f) provide to the Department of Defense, including but not limited to the ACO and DCAA, reasonable access to all GD records to the extent necessary to assure that GD has performed each and every term of this Agreement to be performed by GD;

(g) maintain in all material respects for a period of five years from 13 January 1986 the actions described in Annexes I and II, the ethics, security and contract compliance review programs, and Accounting Policies and Control Systems developed as described in its submission of 13 January 1986, and will obtain the prior consent of the Assistant Secretary of the Navy (Shipbuilding & Logistics) to any material change in these programs;

(h) Within 30 days of the date of last signature to this Agreement, deposit $50,000,000 in a separate escrow account with Chase Manhattan Bank. The funds in this account are to be available solely to pay, at the direction of the Assistant Secretary of the Navy (Shipbuilding & Logistics), civil and contractual liabilities of GD to the United States, if any, arising out of (i) the acts that are the subject of the indictment referred to in paragraph 1, and (ii) the acts occurring prior to this Agreement that may be the subject of any future indictment or civil false claims suit that is issued or commenced before December 31, 1990 and that alleges any form of cost mischarging. The Assistant Secretary of the Navy (Shipbuilding & Logistics), and GD shall review the status of this account annually beginning in January 1988, to determine whether the funds in the account are adequate or any of the funds in the account may be returned to GD. Interest earned on the funds in the account will be paid to GD annually on the anniversary date of the deposit. Any funds remaining in the account (including principal and interest) after resolution of all such liabilities shall be returned to GD. GD shall be obligated to pay any additional amounts determined to be due and owing to the United States for which funds in the account are not sufficient;

(i) cooperate fully with any investigation by the Department of Justice (including the Federal Bureau of Investigation) or the Department of Defense (including its investigative agencies) of which GD knows or learns in the future, but without waiver of rights and defenses which the company by law is entitled to assert;

(j) upon indictment of any of the officers or employees of the Corporation for violation of any Federal criminal statutes, immediately remove all indicted officers or employees from active status with the Corporation;

(k) upon conviction of the Corporation for violation of any federal criminal statute, take appropriate disciplinary action against all responsible individuals. Upon future conviction of any officer or employee for violation of any federal criminal statute for conduct in connection with the individual's performance of duties for or on behalf of GD, take prompt action to fire such officer or employee;

(l) within 5 days of the date of last signature to this Agreement, pay to the Navy $500,000 to reimburse the United States for the costs incurred by the United States related solely to the suspension of GD; and

(m) segregate all costs incurred for or on behalf of GD and the four individuals indicted with GD as described in paragraph 1, in connection with the Government's investigation, the related grand jury proceeding, and the defense of the criminal proceeding.

5. GD agrees that the costs described below shall be unallowable for Government contract purposes and shall not be charged directly or indirectly to any Government contract or subcontract:

(a) the costs of the contracts with Crowell and Moring, and Peat, Marwick, Mitchell & Co., in connection with the Contract Compliance Review Program;

(b) in the event of conviction of GD or any of the named individuals under the indictment described in paragraph 1, (i) all costs (as defined in Federal Acquisition Regulation 31.205-47) incurred by or on behalf of GD or the named individuals in connection with the Government's criminal investigation, grand jury investigation, and the defense of the criminal proceedings; (ii) all costs of legal services (whether performed by in-house or private counsel), administrative and clerical services, costs of the services of accountants and consultants, salaries and wages of employees, officers and directors, travel costs, and any directly related costs, incurred by GD between 3 December 1985 and the date of last signature to this Agreement, in connection with the suspension of GD and the presentations, written and oral, to the Navy in connection with the suspension; and (iii) salaries and benefits of employees placed on leave of absence as a result of the indictment referred to in paragraph 1; and

(c) salaries and benefits of employees placed on leave of absence as a result of any future indictments shall, upon conviction under the indictment, be unallowable.

6. GD shall within 90 days of the date of last signature of this Agreement adjust all billings already submitted to eliminate any costs described in paragraphs 4(m) and 5 that may have been included.

7. The Chairman of the Board and Chief Executive Officer of GD will meet periodically with the Deputy Secretary of Defense and the Secretaries of the Military Departments at their request to review performance under this Agreement.

8. In recognition of the actions set out herein, and subject to GD's compliance with the foregoing undertakings, the Navy on behalf of the Department of Defense agrees that it will provisionally terminate the suspension of GD and, in the event of a conviction of GD or any of its employees as a result of the indictment referred to in paragraph 1, it will not debar GD. Furthermore, GD will not be suspended or debarred based on an indictment or conviction for conduct occurring prior to the date of this Agreement if GD demonstrates to the satisfaction of the Assistant Secretary of the Navy (Shipbuilding & Logistics), that full implementation of the conditions in paragraph 4 eliminates the circumstances giving rise to the conduct, and that GD is a responsible contractor. In the event of future indictment(s) or conviction(s), the Assistant Secretary of the Navy (Shipbuilding & Logistics) will review the circumstances of the indictment(s) or conviction(s) and include, at his discretion, additional action items on Annex II.

9. This Agreement constitutes the entire Agreement between the parties and supersedes all prior Agreements and understandings, oral or written, with respect to the subject matter hereof. This Agreement shall inure to the benefit of, and be binding upon, the parties and their respective successors and assigns.

10. This Agreement shall enter into effect on the date of last signature hereto and shall, except for the escrow account and the obligation of GD under paragraph 4(g), continue thereafter for a period of five years. The escrow account shall terminate upon payment from the account of the last of the amounts described in paragraph 4(h) and GD's obligations under paragraph 4(g) shall terminate according to the terms of that paragraph.

General Dynamics Corporation	Department of Defense
	Everett Pyatt
February 6, 1986	7 FEB 1986
(Date)	(Date)

ANNEX I

This Annex identifies the actions and proposed actions submitted to the Navy Suspension Committee by the General Dynamics Corporation.

	ISSUE	ACTION	MILESTONES	
			START	END
1.	Contract Compliance	Conduct kick-off meeting at each division and at corporate headquarters for GD and government personnel. (p. 27) *		Completed 1/30/86
2.	Contract Compliance	Audit of GD policies, procedures, and practices at corporate office and each division. (pp. 26-30)	1/86	5/86
3.	Contract Compliance	Identify and establish GD "shadow teams." (p. 31)	2/86	2/86
4.	Contract Compliance	Create organizational steering groups and define objectives. (pp. 32-33)	2/86	3/86
5.	Contract Compliance	Completion of Crowell & Moring Report. (p. 30)	6/86	7/86
6.	Contract Compliance	Complete initial Crowell & Moring training program. (pp. 31-32)	3/86	2/87
7.	Contract Compliance	Implement Crowell & Moring recommendations for changes in policies and procedures. (pp. 30-31)	8/86	10/87
8.	Contract Compliance	Establish compliance organization for continuing contract audit. (p. 33)	7/86	10/86
9.	Ethics Program	Appoint a Corporate Ethics Program Director. (pp. 34, 37)		Completed 10/1/85
10.	Ethics Program	Establish Board Committee on Corporate Responsibility. (pp. 36-37)		Completed 9/12/85

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* Page numbers reference the discussion of individual action items in the General Dynamics 13 January 1986 submission.

	ISSUE	ACTION	MILESTONES	
			START	END
11.	Ethics Program	Publish and disseminate Standards of Business Ethics and Conduct. (pp. 42, 47)		Completed 12/85
12.	Ethics/ Acknowledgement Card	Complete distribution of standards booklet and obtain signature of current employees on acknowledgement cards: Phase II (Hourly & Salaried Non-exempt) (pp. 46-47)	10/85	3/86
13.	Ethics Program	Install network of ethics hotlines throughout company. (pp. 49-50)		Completed 1/86
14.	Ethics Program	Distribute and post ethics hotline posters throughout the company. (p. 49)		Completed 2/86
15.	Ethics Program	Establish full-time divisional ethics program directors. (p. 41)	1/86	12/86
16.	Ethics Program	Conduct corporate inside training:		
		Round I Workshop for top corporate officials	9/85	Completed 1/7/86
		Round II Workshop for division officials	1/86	5/86
		Round III Train remaining employees	2/86	6/87
		(pp. 47-48)		
17.	Ethics Program	Publish:		
		CPP 1-10 Gratuities to Customers	In Progress	3/86
		CPP 1-14 Gratuities from Suppliers	In Progress	3/86
		CPP 1-11 GD Ethics Program		Completed 12/4/85
		CPP 1-13 Investigations & Sanctions	In Progress	4/86
		CPP 1-20 Help and Information	In Progress	4/86
18.	Ethics Program	Submit schedule for review, revision and drafting of further CPP support in the following subject areas:	In Progress	3/86
		• Internal Audit Verification of Ethics Program		

	ISSUE	ACTION	MILESTONES	
			START	END
		• Representation of Company and Company Products • Representation of Competitors and Their Products • Recruiting and Hiring of Military and Government Employees • Environmental Resource Management • Purchasing Policy Adherence to Federal Anti-Trust Laws • Voluntary Political Contribution Plan • Outside Directorships • Memberships - Company, Civic and Professional • Company Contributions • Indicators of Fraud in DOD Procurement • Compliance with Foreign Corrupt Practices Act • International Transfer of Electronic Information • Voice and Data Communications Networks • Government Service by Employees (pp. 34, 44, 50)		
19.	Ethics/Time Cards	Publish CPP 12-6, Reporting of Labor Charging Practices and Review of Labor Charging Systems. (p. 45)	In Progress	5/86
20.	Ethics Program	Implement CPP 1-13, Policy and Procedures for Investigating Ethics Violations. (p. 50)	4/86	7/86
21.	NBF/IR&D/BP	Complete first phase of NBF management process review. (pp. 53-54)	12/4/85	Completed 12/18/85
22.	NBF/IR&D/BP	Publish CPP 4-2, New Business Funds Management. (p. 55)	12/85	7/86

	ISSUE	ACTION	MILESTONES	
			START	END
23.	NBF/IR&D/BP	Publish division SPs and DIs detailing procedures to implement corporate policy: SPs DIs (p. 55)	 1/86 1/86	 9/86 10/86
24.	NBF/IR&D/BP	Develop NBF training program for division GMs: Develop Program Actual Training (pp. 67-68)	 1/86 2/86	 8/86 9/86
25.	NBF/IR&D/BP	Complete second training module involving IR&D/BP Managers: Develop Program Actual Training (pp. 67-68)	 1/86 2/86	 8/86 10/86
26.	NBF/IR&D/BP	Complete third training module for section heads working on IR&D/BP projects: Develop Program Actual Training (pp. 67-68)	 1/86 3/86	 8/86 10/86
27.	Accounting Policy and Controls	Establish a corporate Accounting Policy Committee. (pp. 83-84)		Completed 9/85
28.	Accounting Policy and Controls	Publish CPP 12-1, Control System for Accounting and Disbursement of Company Funds. (p. 90)		Completed 12/17/85
29.	Accounting Policy and Controls	Publish CPP 12-3, Activities for Which the Cost May Be Unallowable for Recovery Under Government Contracts. (p. 91)		Completed 12/17/85
30.	Accounting Policy and Controls	Publish and distribute expense reporting guidebook. (pp. 86-87)		Completed 12/85
31.	Accounting Policy and Controls	Develop a revised, consistent Chart of Accounts applicable throughout the corporation. (pp. 88-89)		Completed 1/1/86

	ISSUE	ACTION	MILESTONES	
			START	END
32.	Accounting Policy and Controls	Publish CPP 12-6, Reporting of Labor Charging Practices and Review of Labor Charging Systems. (pp. 101-102)	In Progress	5/86
33.	Accounting Policy and Controls	Revise and publish division time card policies and controls to conform to corporate policies as set forth in CPP 12-6. (p. 102)	In Progress	7/86
34.	Accounting Policy and Controls	Review and confirm the annotation of time cards to contain "Mischarging is Illegal" legend. (p. 88)	2/86	2/86
35.	Accounting Policy and Controls	Develop a charter for division labor audit program managers and assign experienced individuals to these positions. (pp. 102-103)		Completed 11/85
36.	Accounting Policy and Controls	Complete training program on cost allowability for key employees. (p. 86)	10/85	8/86
37.	Accounting Policy and Controls	Institutionalize training program for new personnel on cost allowability and have available at all locations. (p. 86)	10/85	6/86
38.	Accounting Policy and Controls	Publish CPP which establishes a policy that fringe benefits associated with unallowable costs are consistently excluded from overhead claims. (pp. 97-98)	1/86	5/86
39.	Accounting Policy and Controls	Provide copy of VPI statistical sample report. (pp. 79-80)	In Progress	9/86
40.	Accounting Policy and Controls	Publish revision to CPP 13-1 relating to improved follow-up procedures on internal audit recommendations. (p. 83)	1/86	5/86

	ISSUE	ACTION	MILESTONES	
			START	END
41.	Accounting Policy and Controls	Complete Phase I review of material and property management systems. (pp. 104-105)	2/86	4/86
42.	Accounting Policy and Controls	Publish CPP on property and material management. (pp. 104-105)	3/86	11/86
43.	Accounting Policy and Controls	Provide copy of GD audit of alleged mischarging at Electronics Division. (pp. 100-101)		Completed 1/30/86
44.	Division Implementation of New CPPs	Submit index by division showing SPs and DIs issued and to be issued to implement CPP 1-11, 3-3, 12-1, 12-2, 12-3, 12-4, and 12-5.	In Progress	3/86
45.	Competition Advocacy	Develop and implement a corporate Competition Advocacy Program. (pp. 109-110)		Completed 12/85
46.	Spares/ Support Pricing	Publish CPP 3-6, Spares/ Support Equipment Acquisition and Cost Estimating Under Government Contracts. (pp. 107-108)	8/85	3/86
47.	Security	Develop a plan for further reducing the number of unnecessary security clearances.	2/86	4/86
48.	Security	Develop and implement procedures to better safeguard and control classified information. (p. 111)	2/86	6/86
49.	Security	Develop uniform corporate policies and procedures for handling classified material and dealing with security violations.	2/86	7/86

	ISSUE	ACTION	MILESTONES START	 END
50.	Security	Publish and implement CPP regarding acquisition and use of classified and unclassified DOD budget and planning documents.	2/86	3/86
51.	Security	Publish SPP 21-xxx, Industrial Security, implementing the DOD Industrial Security Manual through the CPP system.	In progress	3/86
52.	Security	Develop a detailed security awareness training program. (pp. 111-112)	2/86	4/86
53.	Internal Audit	Expand coverage of Internal Audit Department and increase number of CORE audits. (pp. 124-125)		Completed 1/86

ANNEX II

This Annex represents issues and actions identified during the course of discussions with General Dynamics involving business management policies and procedures.

	ISSUE	ACTION	MILESTONES	
			START	END
1.	Corporate: Request forward pricing and final cost proposal for state income and franchise taxes. (CACO letter dated 4-23-85)	Provide 1986 proposal to CACO.	2/86	2/86
2.	Corporate: Resubmit corporate office forward pricing rates (with allocation) to include Cessna Corp. allocation to other divisions. (CACO letter dated 12-20-85)	Resubmit forward pricing rates.	2/86	3/86
3.	Corporate: The number of potential defective pricing cases indicates inadequate procedures for the timely updating of material and subcontract data associated with the submission of proposals. (ACO letter)	Conduct comprehensive review of material estimating and accounting procedures and report findings/ corrective actions on a division basis.	2/86	9/86
4.	Corporate: The process of resolving alleged defective pricing has often extended several years from the basic audit finding. (ACO and DCAA letters)	(a) Identify to the Navy all defective pricing cases for which the audit report has been provided to GD.	2/86	3/86
		(b) Report status of each case to the Navy on a quarterly basis for the remainder of FY 86.	2/86	9/86
5.	Corporate: Instructions to Pomona management on dealing with indicted employees. (Suspension Committee request)	Provide copy of letter issued to Pomona management dealing with separating indicted individuals from operating responsibilities.		Completed 1/86

	ISSUE	ACTION	MILESTONES START	MILESTONES END
6.	Corporate: Corporate administration. (Suspension Committee request)	Provide index of all corporate policies and procedures.		Completed 1/86
7.	Corporate: Standards for response to government audits. (Suspension Committee request)	Develop and provide corporate-wide standards for response to government audits.	1/86	3/86
8.	All Divisions: Improve ADP interface to obtain ready access to cost data. (Suspension Committee request)	Conduct division by division discussions to improve ADP interface with contractor cost data base. Provide copy of each division agreement.	2/86	6/86
9.	Convair: Development of a method to accumulate pool or base costs within material burden structure. (ACO letter 1-10-86)	Submit a proposal to revise current practices.	1/86	2/86
10.	Convair: Contractor revised practice for accounting for low dollar value material. Cost impact study requested but not provided. (ACO letter 1-10-86)	Submit a final cost impact study.	1/86	2/86
11.	Convair: Reorganization data. (ACO letter 1-10-86)	Provide reorganization cost data to the ACO.		Completed 1/86
12.	Data Systems Division: Install multiple IBM cost centers at all data centers and implement a changed site costing methodology. (DCAA3201-03A410101; GD letter dated 1-7-86; ACO letter ated 1-14-86)	Submit request for approval for multiple IBM cost centers.		Completed 1/86

ISSUE	ACTION	MILESTONES	
		START	END
13. Electric Boat: GD proposes special labor rates on proposals where labor skills greater than average, then uses these in developing average burden center rates for other work. (ACO/DCAA letter dated 1-10-86)	Submit revised rate structure for approval.	1/86	3/86
14. Electric Boat: Labor time recording standard practice requires salaried employees to record hours daily. Floor-checks show high percentage not recording hours daily. (ACO/DCAA letter dated 1-10-86; GD letter dated 1-9-86)	Supplement existing procedures to instruct supervisors of non-supervisory salaried personnel to initial the time cards of such personnel under their cognizance at the end of each day in order to insure that the time cards are up to date.	1/86	2/86
15. Electric Boat: Contractor standard practice does not require hourly employees to record actual hours on a job or to sign labor time card. Supervisors record. (ACO/DCAA letter dated 1-10-86; GD letter dated 1-9-86)	Subject to obtaining bargaining unit concurrence, issue a revised hourly employee labor time recording procedure.	1/86	2/86
16. Fort Worth: ADPE-STE being acquired without approvals. Five after-the-fact approvals in the amount of $749,000, non-capital items. (ACO letter)	Issue Reinforcing instructions to engineering department directing that prior approvals be obtained.		Completed 12/86
17. Fort Worth: CAS 411-Treatment of Group 120 material (machine repair parts) non-compliance issue. (ACO letter dated 1-13-86)	Respond to ACO letter of 1-13-86.	1/86	2/86

ISSUE	ACTION	MILESTONES	
		START	END
18. Land Systems: Spare parts being bid on stand-alone basis, but produced in combination with major production contracts. (DCAA letter 1-9-86)	Perform and submit a random sample study comparing repair part prices to production prices.	1/86	3/86
19. Land Systems: Controls for tooling/ test equipment inadequate. (DCAA letter 1-9-86)	Perform and submit a sampling inspection of property items to trace and verify disposition and/or location.	1/86	6/86

TRIDENT SECOND SOURCING

Senator PROXMIRE. You have been identified with the Navy's effort to induce Newport News to become a second source for the Trident submarine. That sounds good, to obtain a degree of competition.

Newport News has made it clear it will not bid on the Trident unless the Navy reimburses it for startup costs.

I understand, second, the Navy is refusing to pay startup costs.

Is this a publicity gimmick or is there a real prospect that Newport News will bid without paying for startup costs?

Mr. PYATT. Well, we are trying. Whether Newport News may want us to contribute toward that goal, we have not agreed to.

Also, I am not sure that they really want in on the program. There have been articles written about it. They have an awful lot of work down there. Their first focus is the SSN–21 program. They are not sure how long the Trident will be around as a program. So, they are approaching it with some mixed emotions.

Senator PROXMIRE. You are telling me although you are trying, there is no real evidence there will be competition?

You will continue to have sole source procurement on the part of General Dynamics?

Mr. PYATT. It is a possible outcome. If we do not try, it is assured. I think it is important to try and that is what we are doing.

Senator PROXMIRE. You are trying, but at the same time they want startup costs and the Secretary of the Navy says they will not get it.

Mr. PYATT. I have been in a lot of negotiations where the contractor said they would not give and we managed to get our way.

Senator PROXMIRE. You said you instituted policies on the basis of last year's profit study of defense profit in line with commercial profit.

PROFIT DATA

Why not have the Navy collect profit data on a regular basis so we do not have to wait for a private study to tell you what is going on so that you can know in a timely fashion that the policies are working?

Doesn't the Navy have experts and computers to analyze that kind of data?

Mr. PYATT. We do. Part of the data is recorded. I think it is more beneficial to look at the profits as recorded in the annual report under national accounting procedures than sampling a contract here and there and trying to make some sense out of it.

When we look at annual reports, we look at the total business volume that the company deals with by product lines to the degree they are broken out by SEC rules. I find that a more useful tool than looking at a bunch of individual contracts and trying to interpret what it means.

Senator PROXMIRE. I hope you will give it consideration. I asked earlier for more data on that.

Mr. PYATT. Yes, sir.

Senator STEVENS. Thank you.

NEWPORT NEWS YARD UPGRADING

Sometime ago Dr. Schroeder of our staff went to Newport News and gave me this report. The most important upgrading of the yard is coming in the construction of the land-level ship construction facility.

Newport News will invest $200 million in the LLSCF to enhance its overall submarine producibility. This land-level facility will be their counterpart to General Dynamics' land-level facility of 1,300 by 900 feet. It will be substantially larger than the Electric Boat facility.

Newport News hopes to achieve 50 percent preoperating rate, nearly double its current capacity. The LLSCF is scheduled to be completed by 1988. Newport News plans on constructing some of the final SSN–688's at the land-level facility prior to the start of the new design of the SSN production and it means that their facility is large enough that Newport News could build Trident submarines if required to do so.

Have you kept pace with that facility?

Mr. PYATT. Yes. The facility is along in construction. I view it as a direct result of the competition for SSN–688 class ships. They had to do it to stay competitive. It is big enough to handle Trident.

Their interest in Trident is paced along with the evolution of this facility. It is really mixed together. Improvement of any new facility is a major job, they know it.

Senator STEVENS. I am sure there is an advantage in having competition involved, but when we only have two entities that will be involved in that competition and the taxpayer is building both, where is the saving?

Mr. PYATT. The funding of both facilities was by the shipyard, not the taxpayer.

Senator STEVENS. Are you not repaying this cost of this facility?

Mr. PYATT. It appears as a facility is depreciated, it is accounted for as a cost, over time, but not at the beginning.

Senator STEVENS. Is it an investor expense?

I understand that was part of the 688 expense that would be repaid by the Government.

Mr. PYATT. No, sir. This is their investment in their facility. They make the initial investment. You will find it is totally theirs.

SSN-21

Senator STEVENS. On the Sea Wolf you have a request for $454.3 million in advance procurements as a first downpayment on the first $1.6 billion SSN-21 submarine. I am told that detailed design for the submarine will continue 2 years into late 1988.

It appears from the way we look at it that the lead ship is scheduled for 1989. The design changes would indicate the procurement program may slip at least 1 year.

I should like to have your comment on that. There seemed to be some developmental difficulties in cost overruns that are coming out of the combat system and we understand full-scale development contracts on that combat system are not scheduled to be awarded until January 1988.

Is it premature to request shipbuilding funds for the submarine when the combat system is 1½ years away from going into full-scale development and still maintaining a 2-year detailed design program?

Am I right or wrong.

Admiral ROWDEN. Your schedule is correct, Mr. Chairman. The design definition for the combat system for the submarine is due to go from January of this year until January 1988. We have two design teams working on that particular problem. One is headed by RCA and the other one is headed by IBM.

At that time, at the conclusion of that, we intend to select a design for full-scale development, having one or the other of those teams the winner, and the other one accounting in a follower role so that we will create two companies or two organizations capable of producing the combat system.

At the same time, the detailed design, the design of the submarine, is progressing. It is a complicated and lengthy process. We have set these two together so that they can be dovetailed together at the time the ship is authorized and the ship can proceed orderly into award and building.

I do not believe that we are out of step in this at all now.

DESIGN CHANGES

Senator STEVENS. We are implying that the design seems to be changing. You changed configuration of the weapon from forward tubes to side tubes and you have this ongoing design schedule.

It just seems to me that we ought to face up to the question of whether we ought to slip that date.

Admiral ROWDEN. No, sir. I do not believe that the tube design which was moving the tubes from the forward part of the ship to the waist of the ship was made at an improper time. That decision was primarily made to permit the sonar development which has to go in the foreward part of the ship to proceed properly.

It was felt at the time the decision was made that it would be improper for the development of the sonar. I believe that was made in a timely fashion to permit the design to go forward properly.

I do not believe there is any indication that it needs to be delayed.

OVERHAUL COMPETITION

Senator STEVENS. Mr. Secretary, 2 years ago our Committee initiated a test to compete ship overhauls between the Government-owned and private shipyards. It has been included in the last two Appropriations Acts to continue this concept of this test.

There seems to be some preliminary evidence coming back in as to the viability of such a contracting concept. GAO has told us on the average the cost of private shipyard overhauls increased by more than 60 percent over the bid prices.

We want to know, Mr. Secretary, have you been able to determine if there really are any savings in the Government shipyard overhaul as a result of the competition we have generated by this test?

Mr. PYATT. The first example of roughly 1 year ago resulted in the shipyard management going through its, not wage structure, but its management structure, its planning of how it goes about overhauls and reduced its price considerably.

I see in other Navy shipyards where the competition is going on and the management is looking at its own activity much the same way the private sector is looking at its competitive environment. So, I think it is very healthy.

TRIDENT SECOND SOURCING

Senator STEVENS. Senator Proxmire went into the Trident competition concept. Newport News is currently producing more than half of the attack submarines. It has 75 percent of the most recently awarded submarines.

Do you think Newport News is capable of constructing a Trident submarine along with the eight attack submarines they currently have under construction?

Mr. PYATT. It depends on the phasing, when a Trident at Newport News would occur. I think it is highly unlikely they would be in a competitive environment before their facility is finished in 1988 with the workload they have then.

Senator STEVENS. When will we know when you are going to pursue competition in Trident?

Mr. PYATT. We are pursuing competition. There is a lot of work that Newport News has to do to be competitive. I think it is at least a couple of years away before we have the results of the competition, if everything comes together. We are not going to quit. But they may not want to become a competitor.

TAGOS

Senator STEVENS. On TAGOS, the ocean surveillance ships, you were building mono-hull ships. Now we understand there is a switch to a twin hull design. I am told the single-hull ships have been ineffective in high seas.

I have read papers in the State of Washington concerning Tacoma Boat. My understanding is that they have completed 8 of 12 ships that they had to complete. The ninth is about 70-percent complete and now it has filed bankruptcy.

Beyond that, a second shipbuilder is now in the picture building ships 13 and 14 and one of those is mono hull and one is twin hull. I understand there are three more mono hulls you want in 1987. Then we will go to twin hulls beginning in 1988.

Is there any way to sort of straighten this one out without incurring a great deal of extra cost to complete the hulls that you now do not want?

Mr. PYATT. We want them. It is just that in certain areas of the world this SWATH design can operate better. We want to build them for those areas. The mono hulls that are under construction are fine ships for areas where the seas do not get too rough.

We have mission locations for them and Admiral Metcalf can describe it in more detail. We are trying to get to the SWATH hull. It is an interesting story in technology evolution.

The Americans designed the first SWATH. The Japanese picked it up and here we find ourselves trying to catch up with them in the design we developed in the 1970's.

In this particular application it provides stability so that the crews can work. We want to build the ship, leave 1 year, and then build some more ships so that we can get the design shaken out.

TWIN-HULL DESIGN

Senator STEVENS. My staff was told that you were going to switch to the twin-hull ship because the mono hull was ineffective in certain high seas conditions.

As a sailor, my experience with catamarans is not very good when you have really bad seas. You are the experts.

Mr. PYATT. These are not catamarans. This is a different design from the catamaran.

Senator STEVENS. It is not a catamaran?

Mr. PYATT. It is a twin-hull ship, not a catamaran.

Senator STEVENS. Is it a double-hull ship?

Admiral METCALF. It has two hulls which are down below water, below the plane of where the waves are. So the ship itself is floating on these two submerged cigar-shaped hulls and the effect of the waves is less. With a catamaran, the two hulls float on the surface of the water and are more affected by the waves.

The SWATH ship hulls are underneath the surface of the water and are not affected by wave motion.

Senator STEVENS. If this one outfit is bankrupt, why do you want to continue to get the four ships that they would have built if they are ineffective?

I understand you are going to shift entirely to the double-hull concept in the future.

Admiral METCALF. The mono hull is not an ineffective ship.

Senator STEVENS. That is not the question. You do not want it any more, do you?

You tell us you are not going to buy any more after 1987. After 1987 you are not going to buy any more. Starting 1988 you are going to buy only double hulls. Tacoma Boat is bankrupt and you have to find some way to get somebody to build those other four mono hulls.

If you do not want them, what is the rush?

Admiral METCALF. We do want them. We have a certain force level of the mono hulls we need. They are cheaper than building the SWATH hull. They will work in large areas around the world during most of the year and they do a very satisfactory job.

Senator STEVENS. Maybe I asked the wrong question.

Why are we going only to double hulls after 1987?

Admiral METCALF. Because our experience has shown us that in certain parts of the globe, particularly the mono hulls are not as effective. We are planning to procure a proper mixture between the SWATH hull and the mono hull.

Senator STEVENS. Do you have any final questions, Senator?

CONTRACTOR PROFITS

Senator PROXMIRE. I do.

I would like to tell Mr. Pyatt that the study by the Joint Economic Committee I referred to—you said you had not seen it. That study was made available to Admiral Campbell in January when he appeared before the Joint Economic Committee. Copies were given to him. So that it should be somewhere.

Mr. PYATT. I can find it. I have not seen it.

Senator PROXMIRE. We will make it available to you. Admiral Campbell is the——

Mr. PYATT. I know him.

Senator PROXMIRE. You worked together?

Mr. PYATT. I know him. If it is over there, we can get it.

STUDY ON REAL PRICE INCREASES

Senator PROXMIRE. I would like to have a study of real price increases in 1981 and 1983 enlarged by AEGIS cruisers, 1972 and 1973 aircraft carriers and other weapons and equipment furnished by the Navy during that time.

Will you provide me with the data so that the staff of the Joint Economic Committee can do an analysis, provide us with a copy of the contract, business memoranda, and information?

Mr. PYATT. Why do you not look at the end results of what they cost and do a study? I do not understand this other stuff.

Senator PROXMIRE. We would like to have the fundamental documentation.

Mr. PYATT. OK.

Senator PROXMIRE. Is that available? Can you give that to us?

Mr. PYATT. Yes.

Senator PROXMIRE. It is not classified data?

Mr. PYATT. Part of it is business sensitive. We have to worry about that.

[CLERK'S NOTE: Copies of the contracts are available through normal service channels.]

Senator PROXMIRE. Thank you, sir.

Thank you, Mr. Chairman.

MARINER FUND

Senator STEVENS. Mr. Secretary, there is $852 million in the mariner fund which, if it is not authorized for use by the end of the fiscal year, is no longer subject to appropriation for use.

Mr. PYATT. Yes, sir.

Senator STEVENS. You realize that?

Mr. PYATT. Yes, sir.

Senator STEVENS. It will not be used for shipbuilding. It will not be used for anything. It is just an item that drops out of available money for Navy shipbuilding.

Mr. PYATT. I understand that.

Senator STEVENS. How much more is there in that category; that is, savings that are going to lapse this year?

Mr. PYATT. As I mentioned earlier, we will be figuring that out in the spring with our annual review of the status of shipbuilding.

Senator STEVENS. I am talking about 1987. We ought to know that by now; should we not?

Mr. PYATT. We go through it once a year. The numbers you have from last year are the numbers we all use. We are going through it again now and will have in a few months the numbers for all the shipbuilding accounts that are currently available to expend.

Senator STEVENS. Do you have the unexpended balances now?

Mr. PYATT. The unexpended balance?

Senator STEVENS. In prior years?

Mr. PYATT. I do not have them with me.

PRIOR YEAR UNEXPENDED BALANCES

Senator STEVENS. I would like to have you put in the record at this point the unexpended balance for the prior years naval shipbuilding appropriation.

Mr. PYATT. Part of the unexpended balances are to buy Government-furnished equipment that goes on the ships to pay the escalation bills.

We will provide the data, yes, sir.

Unexpended Balance for Prior Year Shipbuilding

The unobligated balances in FY 1982 through FY 1986 are provided below. Unexpended balances are required late in the construction period for government-furnished material, engineering services to insure all equipment works properly once installed, and various test and trials performed prior to acceptance of the ship.

UNEXPENDED SCN BALANCE FY 1982–1986

[$ in thousands]

Fiscal year	*Unexpended balance as of 5/86*
1982	1,246,364
1983	4,972,391
1984	4,046,903
1985	5,737,973
1986	4,112,017

PIPELINE FUNDS

Senator STEVENS. How much is in the pipeline? This is in the pipeline, prior appropriations unexpended?

Mr. PYATT. Not obligated, unexpended?

Senator STEVENS. Unexpended. If they are obligated, as far as I am concerned, they are expended.

Mr. PYATT. Let me try it again.

You really mean money which we have appropriated but have not obligated?

Senator STEVENS. You have not obligated. The money that was like the 752.

Mr. PYATT. Yes, sir.

Senator STEVENS. That you have already identified.

Mr. PYATT. Yes, sir.

Senator STEVENS. Thank you very much.

SUBMITTED QUESTIONS

We will have some questions from Senator Hatfield, the chairman of the committee, that will be submittted to you, together with questions from other committee members.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR HATFIELD

SRA CONTRACTS

QUESTION 1: Last year there was considerable controversy over short term maintenance and repair contracts, specifically whether to limit SRA contracts of six months or less to the homeport areas or expand competition on such contracts to bidders outside the homeport areas. Do you see any opportunities this year to resolve the "competition" versus "personnel" conflicts which coastwide SRA bidding might entail?

ANSWER 1: The Assistant Secretary of the Navy signed a memorandum that directs Navy to compete all private sector Reserve Fleet Availabilities on a coastwide basis. This will apply to Selected Restricted Availabilities, Phased Maintenance Availabilities, and Regular Overhauls (regardless of duration). The exception to this policy will be those Naval Reserve Ships which do not share a homeport with the active fleet.

The Navy feels that it has achieved the optimum trade off of coastwide competition versus personnel considerations (time in homeport). There is adequate competition for homeport maintenance for shorter availabilities. In those rare cases where competition may be lacking in homeport we will certainly expand the consideration area.

QUESTION 2: Current policy permits coastwide bidding for SRAs in excess of a six months duration because compensation for personnel travel is provided in these instances. How many SRA contracts on the current FY87 planning matrix do you anticipate will be in excess of a six months duration and therefore opened for coastwide bidding? How many will be limited to homeport bidding?

ANSWER 2: The current FY87 planning matrix lists 95 SRAs. Of this figure, 80 SRAs are restricted to homeport area bidding; 2 SRAs exceeding six months duration and 13 SRAs with availability duration less than six months, will be solicited coastwide. These 13 ships are Naval Reserve Fleet Units and must be solicited coastwide based on current Secretary of the Navy guidance.

QUESTION 3: If 25 percent of the SRA contracts in FY87 were scheduled for work in excess of six months, approximately how many of those contracts would you anticipate might be awarded to bidders outside the homeport area? And what would be the transportation expenses associated with returning those personnel to their homeport assignments?

ANSWER 3: Based on historical information, approximately 25 percent would be awarded outside the homeport area. An exact cost cannot be calculated unless the location of the successful contractors were known and the number of married crew members opting to move their families to the new location were identified.

QUESTION 4: The Navy has been on record as opposing the imposition of an interport differential on regular overhauls and SRAs conducted outside the homeport areas. In fact an internal Navy audit was the basis of that position stated last year. Does the Navy still oppose the use of the interport differential charges in evaluating contract bids?

ANSWER 4: The Department of Defense Appropriations Act prohibited the Navy from including charges for interport differential as an evaluation factor for contract awards on the West Coast during FY86. The Navy will compare results of contract awards on the East and Gulf Coasts which include interport differentials to determine how many contract awards are affected by the differentials.

MCM TRAINING

QUESTION: One of the reasons to disperse our naval fleet to additional homeports is to lessen the likelihood that our fleet will be bottled up on port by Soviet mine laying. Yet, our minesweeper/minehunter ship building program does not receive high priority in the Navy's budget process. Please explain the steps the Navy is taking to correct this problem?

ANSWER: Our administration has been the principal architect in rebuilding our mine warfare forces which had been allowed to fall into sad neglect. We have consistently planned and programmed mine warfare ship construction to meet our force level goals of 14 MCM and 17 MSH. Engineering and production difficulties, not a reduction in priorities, have caused us to reduce the pace of this program. We remain committed to rebuilding our mine warfare forces as quickly as we can work our way out of the engineering and production difficulties we have. We hope that Congressional support for this high priority rebuilding program can be sustained through this difficult period.

QUESTION: Are you aware that the on-board training program for the minesweeper/minehunter program has been dropped, even though reservists will be manning the ships?

ANSWER: Engineering and production difficulties have also resulted in cost growth. We had to suspend procurement of the AN/SSQ-94 Combat Simulation Test System because of financial shortfalls. We are making provisions during ship construction to facilitate future installation of the SSQ-94 when required funds can be programmed.

QUESTIONS SUBMITTED BY SENATOR D'AMATO

Ev, I would like to thank you for your continued support of the Mine Countermeasure Ships program. I think it remains a needed part of our fleet.

You and I have met together before on this program and its problems are solvable. In the event of a conflict, it is my understanding that with all of the

MSH's and MCM's, only five of our CONUS harbors could be cleared.

QUESTION: Would you agree this is an accurate statement?

ANSWER: Your statement is not accurate. Our force level of 31 MCM and MSH, when achieved, plus our Craft of Opportunity will be able to clear mines from all CONUS harbors required to support a war effort.

QUESTION: What do you envision in future budgets, that will meet our current minesweeping requirements?

ANSWER: Our future budgets will build to the 31 MCM and MSH force level plus 22 Craft of Opportunity.

Last fall, this committee put in $97 million dollars for MCM ship prior year requirements.

QUESTION: What is the status of these funds?

ANSWER: These funds have been appropriated but not authorized. These funds are necessary for the completion of MCMs 1-5.

QUESTION: It is my understanding that the FY 85 contract awards hinge on the $97 million. What relation do these prior year funds have with the FY 85 contracts?

ANSWER: There is no contractual connection of the $97 million to the FY 85 awards (MCM 6 through 8). Should Congress not provide the $97 million which is needed to fund MCMs 1-5 we will not be able to complete these ships. It would not be prudent to contract for more ships if the ships under contract are not fully funded. However, the Navy is planning to proceed with the award of the FY 85 ships under the assumption that Congressional action will provide the $97 million for MCMs 1-5.

Both contractors are being required to deliver a bond with their bid for the 1985 ship award. I would think that putting in a requirement for a bond would influence how the two companies bid on the contract.

QUESTION: How long ago was it when the original proposals were submitted?

ANSWER: The original FY proposals were received on 22 March 1985; the best and final offers are due 31 March 1986.

QUESTION: Why has the Navy established a requirement for a bond without previously stating there was a need a year after the original bid was submitted?

ANSWER: In view of the shipbuilder performance on the MCM program to date, it is a prudent management step by the Navy to protect the taxpayers investment in MCM shipbuilding by requiring a performance bond.

QUESTION: How can either yard get another bond for the 1986 contracts if their assets are already tied up with the 1985 contracts?

ANSWER: We have not yet finalized our acquisition requirements for the FY 86 MCM procurement. We will decide on the need for a performance bond as we finalize our requirements for this procurement.

QUESTION: What has been the reaction of the two shipyards on this requirement?

ANSWER: The shipyards are better able to provide their opinions to you than we are.

MCM

QUESTION: Where does the Navy stand in awarding the contracts for the FY 85 ships?

ANSWER: The best and final proposals are due from the shipbuilders on 31 March 1986.

QUESTION: Does the subcommittee have your assurance that these shipbuilders will receive contracts in the near term?

ANSWER: We make no assurances to anyone in advance of actual contract awards.

QUESTION: In what time frame do you expect this to happen?

ANSWER: Assuming the proposals are submitted on 31 March as required and there are no unforeseen events, we should be able to award three of the four FY 85 ships in April.

QUESTION: How do you plan to proceed with the FY 86 contract awards?

ANSWER: At present the FY 86 contracts are scheduled for competitive award in late calendar 1986. This award will include the fourth FY 85 ship and the two

FY 86 ships assuming the additional $30 million appropriated is authorized.

CONSTRUCTION OF AIRCRAFT CARRIERS

QUESTION 1: Let me make sure I understand this statement. Is the Navy saying that you don't plan to have any new construction aircraft carriers for the next fifteen years and beyond?

ANSWER 1: We intend to build new aircraft carriers in the 1990s.

QUESTION 2: What plans do you have to keep our mobilization base alive for the aircraft carrier industry?

ANSWER 2: We currently have three aircraft carriers under construction. CVN 73 is scheduled for delivery in 1991. This work will sustain the aircraft carrier industrial base.

QUESTIONS SUBMITTED BY SENATOR STENNIS

Mr. Secretary, I am concerned about the trend of the Navy's Shipbuilding and Conversion Account over the past several years. As an avid supporter of the efforts to maintain progress towards a modernized 600-ship Navy my concern lies in the fact that the Shipbuilding and Conversion account's share of the overall defense budget has been decreasing--not increasing--at the same time we are striving towards the goal of 600 ships. In fact, this year's SCN budget request is less than the amount appropriated for the same account in FY 1984.

QUESTION: In view of this, Mr. Secretary, is this year's SCN budget request of roughly $11 billion adequate to meet our needs and requirements to reach our goal of a 600-ship Navy?

ANSWER: Our FY 87 request is a balanced shipbuilding plan that meets our needs and supports our goal of a 600 ship Navy.

Also, Mr. Secretary, your latest five year shipbuilding plan shows several major changes from last year's plan.

For the four overlapping years (1987-1990):

- o DDG 51 destroyer buys are reduced by six ships (from 18 to 12);
- o LSD 41 follow-on buys are reduced by three ships (from 6 to 3).

QUESTION: Please explain the reason for these changes.

ANSWER: We had to reduce our expectation of overall SCN funding in the five year plan based on Congressional action on the FY 86 budget. With lower funding levels anticipated, we reduced ship production quantities.

QUESTION: How do these changes affect the Navy's ability to reach its 600-ship goal?

ANSWER: These FY 87-90 ships would have delivered after we achieve the 600-ship Navy goal in 1989.

SUPPLEMENTAL AUTHORIZATION

QUESTION: Last year's Appropriation Bill included $469 million of new money to fund the reactivation of the fourth and final battleship, the USS WISCONSIN. Funding for this reactivation was also authorized but it was to be done with prior-year money.

The Senate Armed Services Committee has before it now a so-called Supplemental Authorization Bill which includes items in which amounts appropriated exceed those levels authorized--the battleship falls into this category.

Please tell the Committee the status of this situation regarding funding for the battleship and explain what can be done to move this program ahead?

ANSWER: We are proceeding with action we can take on the battleship program using the available long lead funds. However, FY 86 full funding, although appropriated, has not been authorized. We are working with the Congress to have the battleship funds authorized so that we can avoid disrupting this program.

TAGOS

I notice that this year's budget request includes $33 million for one oceanographic research ship. As you are aware, we have fine facilities and top-quality people at the oceanographic center located in Bay St. Louis, Mississippi, and I continue to have a strong interest in this area.

QUESTION: Please tell the Committee the plans for the construction of this ship and future ships of this kind.

ANSWER: We plan to have a competitive procurement for design and construction of the FY 87 oceanographic research ship. Our FY 87 five year shipbuilding plan shows five additional oceanographic ships. We are currently reviewing our long term force level requirement for oceanographic ships as part of our preparation for the FY 88 budget.

SHIP OVERHAUL MANAGEMENT

QUESTION 1: Mr. Pyatt, in your statement, you request many positive changes in Navy ship overhaul operations (page 3). These include:

a. Improved management practices in Navy shipyards which will result in savings of $500 million.

b. Expansion of incentives for improved Navy shipyard performance by doubling the number of overhauls to be competed between public and private yards. (In 1986, Congress directed that four overhauls be competed and in 1987 the Navy proposes to compete eight overhauls.)

c. Improved management of ship overhaul contract activity which minimizes overruns on fixed-price contracts and allows the Navy to complete overhauls at less cost than the government estimate even including the growth work that does evolve.

Please tell us about each of these three improvements.

ANSWER 1a: Over the past several years, the Navy has been conducting studies of the public shipyards to determine how they might become more efficient - that is, accomplish the same volume and quality of work but at a lower cost. These studies examined all aspects of the shipyards' operations and provided us with sufficient information to be able to reduce the cost of the FY87 Maintenance and Modernization Program by $500M without sacrificing needed work. At present, the shipyards are planning to install the improved management practices which our studies indicate can be accomplished and can provide significant savings during FY87. These improvements represent a wide range of practices dealing with productivity, the cost of material and overhead expenses. Some examples of improved management practices are better methods to estimate the amount of material needed to finish a job so that surpluses are reduced, stronger programs to expand trade skills so that time spent waiting on assistance is compressed or eliminated, eliminating unproductive third-shifts, reducing overtime useage and performing real-time cost control before the situation gets out-of-hand. A number of improvements are being tested during the current year and their probable success has given us the confidence necessary to reduce the cost of the FY87 program by $500 million without reducing planned work.

ANSWER 1b: Congress directed that, in FY86, four or more overhauls be competed between the public and private sectors. We have doubled that amount, and eight ships have been designated for competition in FY86, including two nuclear submarines. At present the FY87 depot maintenance overhaul program has five ships that have not been assigned to either the public or the private sector. A decision has been made to compete these five ships between the public and private sectors. Additional ships may be nominated for public/private competition. We expect this competitive pressure to further reduce the cost of overhauls/repairs in both the naval and private shipyards. The competition is a test program to encourage cost savings and improve performance in both public and private shipyards.

ANSWER 1c: Several initiatives have been taken to hold down cost increases. One of the most significant initiatives is to defer growth in scope work identified during overhaul if: (1) an acceptable price cannot be negotiated with the contractor; (2) the work will not impact significantly on the outcome of the overhaul. A separate maintenance availability will be established and the deferred work will be competitively awarded using fixed price contracts to obtain the least cost to the Navy.

Secondly, the work specifications will contain a requirement for the contractors to reserve a specific number of mandays of trade skills, priced as part of the contract, to accomplish growth work identified during the conduct of the overhaul.

The language within the repair specifications is under continuous review to strengthen definitions of work to reduce instances of misunderstanding, or disagreement as to the scope of work.

QUESTION 2: Why has the Navy chosen to double the size of the public-vs-private overhaul competition in 1987?

ANSWER 2: Congress directed a public versus private test competition be conducted on four or more overhauls. To both meet the intent of Congress, and more fully evaluate the anticipated benefits of this competition, the Navy determined that eight ships would be included in the test program (four ships homeported on the West Coast and four ships homeported on the East Coast).

QUESTION 3: A recent GAO report criticized Navy management of overhauls in private yards. Your statement seems to suggest that the Navy has largely resolved these problems. Is this true?

ANSWER 3: Yes, this is true, but difficult problems will always exist in overhaul of complex equipment and ships. History has shown this many times.

SUBCOMMITTEE RECESS

Senator STEVENS. Our next hearing will be Tuesday at 10 a.m. on Army modernization.

Thank you very much.

[Whereupon, at 11:25 a.m., Friday, March 14, the subcommittee was recessed, to reconvene at 10 a.m., Tuesday, March 18, 1986.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

TUESDAY, MARCH 18, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Kasten, D'Amato, Rudman, and Sasser.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE ARMY

STATEMENTS OF:

HON. JAY R. SCULLEY, ASSISTANT SECRETARY OF THE ARMY (RESEARCH, DEVELOPMENT AND ACQUISITION)

LT. GEN. LOUIS C. WAGNER, U.S. ARMY, RESEARCH, DEVELOPMENT AND ACQUISITION

ARMY MODERNIZATION

REVIEW OF BUDGET

Senator STEVENS. Good morning, gentlemen.

Today the committee will hear testimony on the Army's modernization program. The hearing will focus on the Army's $5.6 billion RDT&E request and its $18.6 billion request for procurement. The RDT&E request represents a $944 million or a real 16-percent increase over post-Gramm-Rudman-Hollings sequestration levels. For procurement, the increase is $660 million, but which does not even maintain last year's real purchasing power.

Included in this year's request is a 7.5 percent real increase in R&D technology base funding while production of major weapon systems such as the AH–64 attack helicopter, the M–1 tank, the Bradley fighting vehicle and the UH-60 Black Hawk helicopter continued at last year's levels.

Multiyear procurement of the Patriot and Stinger air defense missiles is proposed along with significant increases in the command and control area. Funding for improved medical support capabilities is also included.

The committee will examine all of these areas along with other current program developments within the context of growing fiscal constraints.

Let me welcome you back, Dr. Sculley. You have done a very fine job as Assistant Secretary of the Army for Research, Development, and Acquisition, and Lieutenant General Wagner, Deputy Chief of Staff for Research, Development, and Acquisition; we appreciate your work also.

Your complete statement will be printed in the record.

Proceed as you wish this morning.

Dr. SCULLEY. Thank you very much, Mr. Chairman.

I appreciate the opportunity to appear with General Wagner before the committee and the opportunity to submit a prepared statement for the record. I would only request a few brief remarks.

First of all, we in the Army must acknowledge the fine support provided by this committee in the past. It is really your support that has allowed us to make, what I feel, are significant advancements toward the challenge of providing our fighting force with state-of-the-art warfighting technology.

I also feel that we in the Army understand the difficult fiscal constraints which Gramm-Rudman-Hollings places on us, but with your permission, let me review with you the Army policy on where to make our reductions.

BUDGET REQUEST

Our appropriations for fiscal year 1986 in procurement was $18.8 billion. Our request for fiscal year 1987 is $18.6 billion, or, in analyzing it, negative real growth slightly in excess of 5 percent.

On the other hand, our research, development, test, and evaluation appropriation was $4.8 billion and our 1987 request is some $5.6 billion or real growth on that basis of nearly 11 percent. Taken together, however, the RDA accounts are nearly zero percent change.

I think it is essential we place investment growth in RDA in proper perspective. The RDT&E accounts have met the spirit of the Gramm-Rudman-Hollings objective and I would emphasize that we in the Army have made the important decision to emphasize our future warfighting capability.

[The statements of Dr. Sculley and General Wagner follow:]

PREPARED STATEMENT OF HON. J. R. SCULLEY

ASSISTANT SECRETARY OF THE ARMY

(RESEARCH, DEVELOPMENT AND ACQUISITION)

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE: IT IS A PRIVILEGE FOR ME TO APPEAR BEFORE YOU TO PRESENT THE FISCAL YEAR 1987 BUDGET REQUEST FOR THE ARMY'S RESEARCH, DEVELOPMENT, TEST AND EVALUATION PROGRAM.

FIFTEEN YEARS AGO WE RECOGNIZED THE NEED TO MODERNIZE IN ALL AREAS, BUT PARTICULARLY IN OUR PRINCIPAL WEAPON SYSTEMS. AT THAT TIME THE SOVIETS WERE DEVELOPING AND DEPLOYING WEAPON SYSTEMS AT RATES WHICH INDICATED THAT THEY INTENDED TO ESTABLISH A CLEAR NUMERICAL SUPERIORITY OVER THE U.S. AND ITS NATO ALLIES IN TERMS OF MODERN CONVENTIONAL MILITARY FORCES.

THE SOVIET FORCES AND THOSE OF THE OTHER WARSAW PACT MEMBERS WERE THEN ALREADY NUMERICALLY SUPERIOR BUT INFERIOR IN THE QUALITY OF THEIR EQUIPMENT. ACCORDINGLY, THE U.S. AND OUR NATO ALLIES ENJOYED A SUBSTANTIAL QUALITATIVE SUPERIORITY. THE DETERRENCE OF OUR CONVENTIONAL FORCES DEPENDED LARGELY UPON THE UNCERTAINTIES THAT THIS QUALITATIVE DIFFERENCE CREATED FOR THE SOVIETS.

THE MODERNIZATION PROGRAM UPON WHICH WE HAD EMBARKED IN 1970 WAS DESIGNED TO EXPLOIT OUR TECHNOLOGY AND TO USE IT TO FIELD NEW SYSTEMS WHICH WOULD MAINTAIN OUR MARGIN OF QUALITATIVE SUPERIORITY. WITH YOUR SUPPORT, THAT PROGRAM HAS GONE WELL. WE HAVE DEVELOPED MODERN SYSTEMS AND ARE NOW ACQUIRING THEM AND MODERNIZING OUR FORCE. GENERAL WAGNER WILL BE DISCUSSING IN SOME DETAIL OUR CURRENT STATUS AND WHAT OUR FISCAL YEAR 1987 REQUEST WILL ACCOMPLISH.

AS WE HAVE PROCEEDED WITH OUR MODERNIZATION PROGRAM, THE SOVIETS HAVE MOVED MUCH MORE AGGRESSIVELY THAN ANY OF OUR ESTIMATES PREDICTED. THEY HAVE INCREASED THEIR NUMERICAL ADVANTAGE MORE THAN EXPECTED AND, MORE ALARMING, HAVE REDUCED AND, IN SOME CASES, REVERSED THE QUALITATIVE ADVANTAGE WE HELD. IN EUROPE THIS MEANS THAT SOVIET AND WARSAW PACT FORCES HAVE FIELDED A MODERN MOTORIZED AND ARMORED FORCE, A DENSE MULTI-SYSTEM AIR DEFENSE, MODERN ATTACK AIRCRAFT AND HELICOPTERS, AND A GROWING CONVENTIONAL TACTICAL MISSILE THREAT. THUS, AT LEAST BY MANY OF THE MEASURES WHICH WE HAVE USED TO COMPARE OUR FORCES, WE HAVE INDEED LOST GROUND. IN THESE RESPECTS, THE UNCERTAINTIES FOR THE SOVIETS IN CONDUCTING A CONVENTIONAL CAMPAIGN IN EUROPE HAVE BEEN REDUCED AND SO, ACCORDINGLY, HAS THE DETERRENT POSTURE OF THE U.S. AND NATO FORCES.

AT THE SAME TIME, THE MILITARY SITUATION IN THE THIRD WORLD HAS WORSENED. SOVIET MILITARY POWER AND INFLUENCE HAVE BEEN INCREASINGLY PROJECTED THERE. IN SOUTHEAST ASIA, IN PARTICULAR, SOVIET MILITARY EQUIPMENT HAS BEEN USED TO ESTABLISH LARGE AND MODERN MECHANIZED AND ARMORED FORCES. THESE AND DEVELOPMENTS IN AFRICA AND LATIN AMERICA CONFRONT US WITH A MILITARIZED THIRD WORLD IN WHICH THE PROSPECTS FOR U.S. MILITARY OPERATIONS ARE BECOMING INCREASINGLY FORMIDABLE.

WHILE WE HAVE BEEN MODERNIZING, THE SOVIETS HAVE BEEN INCREASING THEIR NUMERICAL ADVANTAGE AND ELIMINATING THE QUALITATIVE GAP. IN THE AREA OF QUALITY, THE SOVIETS HAVE DONE THIS, AT LEAST IN PART, BY ACQUIRING OUR TECHNOLOGY. HAD WE DEPENDED ONLY ON EQUIPMENT MODERNIZATION, OUR DIFFICULTIES NOW WOULD BE VERY SERIOUS, IF NOT EXTREME. HOWEVER, AS THESE SOVIET DEVELOPMENTS EMERGED, OUR MILITARY PLANNERS RECOGNIZED THE NEED

TO MEET THEM, FIRST, BY DEVELOPING NEW DOCTRINE FOR THE EMPLOYMENT OF OUR NEW WEAPONS AND, SECOND, BY DEVISING NEW ORGANIZATIONS FOR OUR LIGHT FORCES, AS PART OF THE ARMY OF EXELLENCE PROGRAM, TO MEET OUR NEW AND INCREASING WORLDWIDE COMMITMENTS.

AIRLAND BATTLE IS A MAJOR ADVANCE IN DOCTRINE WHICH ADDRESSES THE BATTLE ACTIVITY IN THE REAR, CLOSE-IN, AND DEEP AREAS AS CONCURRENT, COORDINATED OPERATIONS. THIS DOCTRINAL DEVELOPMENT IS PARTICULARLY BOLD IN ITS CONCEPT FOR DEEP ATTACK, THAT IS, PROJECTING COMBAT POWER DEEP TO ATTACK THE SECOND AND THIRD ECHELONS OF THE ENEMY FORCE. THIS ASPECT OF AIRLAND BATTLE IS GENERALLY DESCRIBED AS PRODUCING DELAY, DISRUPTION, AND ATTRITION OF THESE ECHELONS BUT, BY DOING THIS, IT DOES MUCH MORE. DEEP ATTACK IN AIRLAND BATTLE PLACES THE WHOLE CONCEPT OF SOVIET CAMPAIGN OPERATIONS AT RISK. THUS, AS WE IMPLEMENT THIS DOCTRINE, WE WILL INCREASE GREATLY THE MARGIN OF UNCERTAINLY FOR THE SOVIETS REGARDING THE OUTCOME OF ANY CONVENTIONAL CAMPAIGN AND, THEREFORE, RESTORE THE DETERRENT POSTURE OF OUR CONVENTIONAL FORCES.

AIRLAND BATTLE IS ALREADY BEING IMPLEMENTED WITH THE FORCES AND EQUIPMENT NOW IN THE FIELD. HOWEVER, THE FULL DEVELOPMENT OF THE POWER OF THIS CONCEPT DEPENDS CRITICALLY ON THE COMPLETION OF OUR MODERNIZATION PROGRAM, THE EXPLOITATION OF EMERGING TECHNOLOGIES IN SENSORS TO SEE DEEP, IN SMART MUNITIONS TO STRIKE DEEP, AND IN DATA PROCESSING AND TELECOMMUNICATIONS TO MANAGE THESE RESOURCES RAPIDLY. OUR SCIENTIFIC AND TECHNOLOGY BASE IN THE U.S. POSITIONS US ALMOST UNIQUELY TO DO THIS AND, THUS, TO ESTABLISH A MAJOR ADVANTAGE OVER OUR ADVERSARIES IN EMPLOYING WEAPONS ON A MODERN BATTLEFIELD.

OUR PLANS FOR IMPROVING THE CAPABILITY OF OUR LIGHT FORCES ALSO REQUIRES AN AGGRESSIVE APPLIED TECHNOLOGY PROGRAM. THE REORGANIZATION OF THESE FORCES UNDER THE ARMY OF EXCELLENCE PROGRAM WILL PROVIDE FOR GREATLY INCREASED DEPLOYABILITY. THESE FORCES, HOWEVER, WILL NEED GREATER FIREPOWER TO MEET MODERN MECHANIZED AND ARMORED THREATS, AND DEVELOPMENTS IN THIS AREA ALSO REQUIRE AN AGGRESSIVE TECHNOLOGY PROGRAM.

IN SUMMARY, TO MEET THE MILITARY CHALLENGE WE HAVE DESCRIBED, WE MUST DO THREE THINGS: (1) COMPLETE THE ACQUISITION PROGRAM NEEDED TO MODERNIZE ALL UNITS IN OUR FORCE, (2) EXPLOIT OUR ADVANTAGE IN SCIENCE AND TECHNOLOGY TO ADD VALUE TO THAT FORCE BY DEVELOPING THE SYSTEMS NEEDED TO IMPLEMENT AIRLAND BATTLE AND IMPROVE THE COMBAT POWER OF OUR LIGHT FORCES, AND (3) CONTINUE OUR R&D TO SEIZE THE OPPORTUNITIES OUR EMERGING TECHNOLOGIES PROVIDE TO CREATE NEW CAPABILITIES AND TO DEVELOP GREATLY IMPROVED SYSTEMS.

WE MUST RECOGNIZE THAT THE FUNDAMENTAL ADVANTAGE WE HAVE OVER OUR ADVERSARY IS BASED ON TWO ESSENTIAL INGREDIENTS: (1) THE EXPEDITIOUS AND EFFECTIVELY MANAGED COMPLETION OF OUR MODERNIZATION PROGRAM, AND (2) THE BASE OF SCIENCE AND TECHNOLOGY IN THE U.S. AND IN THE NATO NATIONS. IF WE DO NOT AGGRESSIVELY COMPLETE OUR MODERNIZATION WHILE PUSHING OUR R&D PROGRAMS TO EXPLOIT THIS ADVANTAGE, WE WILL RISK A SERIOUS LOSS IN THE DETERRENT VALUE OF OUR CONVENTIONAL FORCES.

Joint Prepared Statement

J. R. Sculley

Lt. Gen. Louis C. Wagner, Jr.

DEPARTMENT OF DEFENSE
UNITED STATES OF AMERICA

DEPARTMENT OF THE ARMY
WASHINGTON, D.C. 20310

February 18, 1986

Members of Congress:

The Army's pursuit of modernization and a balanced material acquisition program is underway to meet the goal of equipping our Army to respond to a constantly changing worldwide threat. Force modernization, in reality barely begun, is essential in an Army that has little choice but to capitalize on advanced technology. If today's research and development is to bear fruit in the future, the effort must focus on achieving key operational capabilities in less time with fewer false starts. The Army's primary focus is on five Key Operational Capabilities: Command, Control and Communications (C-Cubed); Reconnaissance, Surveillance, and Target Acquisition; Battlefield Sustainment; Battlefield Lethality and Soldier Performance Enhancement. We will continue stressing the procurement of off-the-shelf "non-developmental" systems to insure a reduction in equipment fielding times and savings in development costs.

The following introduction provides a brief overview of the research, development and acquisition objectives and ongoing efforts to meet these objectives. The weapons systems and other equipment are categorized by specific Army mission areas and are designed to show the current strengths and weaknesses in these mission areas. Our hope is that the enclosed discussions will make the Army's request for each system meaningful by describing its intended use on today's, as well as tomorrow's, potential battlefield.

In addition to this statement, we are also making available to you the "1986 Army Weapons Systems" handbook, a consolidated reference for a number of our weapons systems.

It is an honor to represent the Army in working with this session of the 99th Congress.

Louis C Wagner Jr
LOUIS C. WAGNER, JR.
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INTRODUCTION

In FY87, the Army continues the long-term program of equipping our forces with the systems required to gain a qualitative edge over the Soviets. We ask your continued support in this effort; however, we are mindful of the necessity of reducing the deficit, and consequently remain committed to ensuring the dollars provided us are used wisely and efficiently. The continued Congressional support of the Army's equipment modernization program is paying dividends. As we move into FY87, it is essential that this positive trend continues to enable the Army to eliminate obsolescence, fill shortages, and strengthen our position relative to probable adversaries.

Our ability to measure and articulate changes in unit capabilities over time against a realistic threat force was vastly improved in 1984 with the development of the Measuring Improved Capability of Army Forces (MICAF) Study.

Improvements to the 1984 study have resulted in MICAF 85 which is expanded to provide data showing the capability changes of most divisions, separate brigades, and Armored Cavalry Regiments fighting a 1988 threat. Total Army major combat units warfighting capability improved 39% over the 1980-1985 period compared to a 1988 threat. The relative combat potential of the same force with the equipment projected to be fielded in 1987 is a 52% increase.

The FY87 combined procurement and RDTE request is for $24.2 billion. These funds will continue the improvement of the Army's near-term readiness posture, continue to modernize the total force, and support near and far term research and development. Progress has been made in meeting our requirements; however, the Army is still short the materiel to bring units up to the equipment level they require. Reduction of these shortages as quickly as possible is our highest priority. We must continue to procure additional quantities of equipment—currently fielded, product-improved, and new—for both Active and Reserve Components.

A brief review of the recent history of development in the Army's combat forces, and changes in the character of the combat operations they must prepare for, will help establish a basis for our current RDT&E and acquisition programs.

Fifteen years ago we recognized the need to modernize in all areas, but particularly in our principal weapon systems. At that time the Soviets were developing and deploying weapon systems at rates which indicated that they intended to establish a clear numerical superiority over the US and its NATO allies in terms of modern military forces.

Their forces and those of the other Warsaw Pact members were then numerically superior, but inferior in the quality of their equipment. Accordingly, the US and our NATO allies enjoyed a substantial qualitative superiority. The modernization program upon which we embarked in 1970 was designed to exploit our technology and use it to field systems which would continue that margin of qualitative superiority. That program has gone well. We have developed modern systems and are now acquiring them and modernizing our force.

As we proceeded with our modernization program, the Soviets moved much more aggressively than any of our estimates predicted. They increased their numerical advantage more than expected and, more alarmingly, have reduced, and in some cases reversed, the qualitative advantage we held. In Europe this means that Soviet and Warsaw Pact forces have fielded a modern motorized and armored force, a dense multi-system air defense, modern attack aircraft and helicopters, and a growing conventional tactical missile threat. By many of the measures which we have used to compare our forces, we have indeed lost ground. Consequently, the uncertainties for the Soviets in conducting a conventional campaign in Europe have been reduced and so has the deterrent posture of the US and NATO forces.

At the same time the military situation in the Third World has worsened. Soviet military power and influence have been increasingly projected there. In Southeast Asia, in particular, Soviet military equipment has been used to establish large and modern mechanized and armored forces. Developments in Africa and Latin America also confront us with a militarized Third World which is unstable.

Where have these developments placed us? While we have been modernizing, the Soviets have been increasing their numerical advantage and eliminating the qualitative gap. However, as these developments emerged, our military planners recognized the need to meet them, first, by developing doctrine for the employment of our new weapons and, second, by devising new organizations for our combat forces to meet our increasing worldwide commitments.

In 1972, the Army's primary mobility and firepower weapons systems were rapidly approaching obsolescence. A clear and immediate requirement to modernize these systems was evident. The Army leadership established a program to focus technology and development efforts on systems identified as being most crucial to execution of the Service's combat mission.

Five major development efforts emerged, termed the "Big Five." These systems, which will provide the mobility and firepower necessary to support the Army until the year 2000, are now being produced and fielded. They are the M1 Abrams main battle tank, M2 and M3 Bradley fighting vehicles, AH-64 Apache attack helicopter, UH-60 Black Hawk helicopter and the Patriot surface-to-air missile system.

The success of the Big Five programs was attributed to the focus established by the Army leadership, the Congress and defense contractors. Today, the requirement to distribute scarce resources to achieve maximum capability is more challenging than ever before. In 1972, our doctrine was oriented toward heavy forces; today we must have the capability to realistically engage threats across the full spectrum of warfare, from terrorism to the nuclear battlefield. The rapid advancement of technology, coupled with its broad application to weapons systems, makes it imperative to define requirements, develop systems and field hardware in the shortest time possible.

Recently, the Army Staff concluded a short, intense study to identify follow-on initiatives to the Big Five. From that study, a concept has been established to guide development and fielding of weapons between now and the year 2000.

The concept centers on "key operational capabilities," or those warfighting capabilities the Army must have to fight and win on any battlefield. The key operational capabilities provide a means of identifying the necessary systems, programs and technologies to ensure that priority Army research, development and acquisition efforts are supported in the annual program, planning, budgeting and execution cycles. The key operational capabilities are identified as: reconnaissance, surveillance and target acquisition (RSTA); command, control and communications (C3); battlefield lethality; battlefield sustainment and soldier and unit performance enhancement. Other capabilities such as strategic and intratheater lift were recognized as being critical, but are less affected by Army research, development and acquisition activities.

The concept of key operational capabilities capitalizes on those technologies where the United States has an advantage, for example, microchip technology and biotechnology. This competitive edge provides the potential to achieve a significant improvement in war-fighting capabilities, which will offset quantitative deficiencies.

The potential for improvement extends across the entire spectrum of fighting capabilities, including the areas of battlefield synchronization and deep-attack capability. Such an improvement will not only change the nature of land warfare but will also shape it in U.S. terms as opposed to those dictated by a potential enemy.

AirLand Battle is a major advance in doctrine. It addresses the battle activity in the rear, close-in, and deep areas as concurrent, synchronized operations. This doctrinal development is particularly bold in its concept for deep attack; that is, projecting combat power deep to attack the second and third echelons of the enemy force. This aspect of AirLand Battle is generally described as producing delay and disruption of these echelons, but by doing this, it does much more. Deep attack in AirLand Battle places the whole concept of Soviet campaign operations at risk. Thus, as we implement this doctrine, we will greatly increase the margin of uncertainty for the Soviets regarding the outcome of any conventional campaign and, therefore, restore the deterrent posture of our conventional forces.

It is important to note that this is a joint doctrine which provides the framework within which the Army and Air Force coordinate plans for R&D programs and for operations.

AirLand Battle is already being implemented with the forces and equipment now in the field. However, the full development of the power of this concept depends on the exploitation of emerging technologies in sensors to see deep, in smart munitions to strike deep, and in data processing and telecommunications to rapidly manage these resources. Our scientific and technology base in the US uniquely positions us to do this and, thus, to establish a major advantage over our adversaries in employing weapons on a modern battlefield.

Since the full capability of AirLand Battle doctrine will be underwritten by science and technology, it is particularly important that we sustain an aggressive R&D program to support it. To do less would be to ignore a major advantage we have in applying science and technology to leverage our combat power. To do less would also risk assuring the success of the Soviet strategy to develop superiority by fielding larger forces and matching or exceeding our weapons in quality.

Our plans for improving the capability of our light forces also require an aggressive applied technology program. The reorganization of these forces under the Army of Excellence program will provide for greatly increased deployability. These forces, however, need greater firepower to meet modern mechanized and armored threats.

A major task of the Army is to achieve synchronization of the AirLand Battle. It is expected that the potential enemy will outnumber us in weapons and in manpower. Our advantage must be gained by bringing to fruition the nation's capability in high technology, so that we may field the systems necessary to control the battlefield and offset enemy numerical superiority.

Another major task is to field a deep-attack capability for heavy and light forces. We must be able to detect, identify and attack enemy follow-on forces, command and control centers, and logistics operations. With their disruption, we can be successful; without it, we cannot.

One must never forget that the most crucial battle will be fought at the forward line of troops where the infantry and armor soldiers, with the support of all other arms, ultimately win or lose the battle. Hence, we continue to place geat emphasis on the weapon systems that are key to this battle.

The Army must, of course, continue to define and refine joint service operational capabilities. We fight as a team with the Air Force, Navy and Marine Corps and must coordinate our RDA programs with theirs.

The key operational capabilities provide the basis for the development of systems and programs to be emphasized in the 15-year period ahead. Specifically, each system in development must clearly demonstrate that its presence will significantly enhance the warfighting capabilities of the Army and that it will go into production before the year 2000.

The soldier is the ultimate recipient of all of our research, development and acquisition efforts. Today's soldiers are exceptional. They are well qualified, physically and mentally toughened by their training and led by competent and caring leaders at all levels.

Proper soldier-machine interface is receiving increased emphasis in the design of all our equipment. We continually encourage weapons makers and Army program managers to pay more attention to soldier-machine interface problems as they lay out a new system in the concept formulation stage. The soldier must be "in the loop." We ensure that proper attention is paid to the manpower function and requirement in relation to the hardware to make the system far more effective in battle.

The capabilities of our soldiers will be a determining factor in system design. With fierce competition for top-quality recruits facing the Army in the future, both qualitative and quantitative personnel demands will become critical. Weapons and equipment must be designed to fit the soldier and his fighting environment. Program managers and laboratory directors are insuring that the man-machine interface effort makes the machine fit the soldier. Proper equipment design can reduce the soldier's work load in the high stress combat environment.

Emphasis on soldier performance enhancements is producing increasingly improved support items for the individual soldier. New clothing and equipment technologies mean increased survivability for the smaller and more lethal force of the future. These include research in chemical fibers and fabrics to optimize flame resistance and relief of heat stress; evaluation of new experimental fabrics for ballistic protection; development of improved chemical protective clothing and equipment systems; improved desert camouflage and infrared signature suppression and lightweight cold weather protection. Microclimatic conditioning units for vehicle crews will be fielded in the M1A1 Abrams tanks.

The M1 tank is being brought to a new level of capability with the fielding of the new M1A1 model and plans for a future package of improvements for that superb tank. The M1A1 improvement program is aimed at both improved effectiveness and operational and sustainment (O&S) cost savings. The effectiveness improvements are:

- An independent thermal-imaging night viewer for the tank commander.
- Improved commander's weapon station.
- Improved range finder.
- Better survivability.
- Driver's thermal viewer.
- A battlefield management system.

The research, development, test and evaluation (RDT&E) began in fiscal year 1985, and introduction to tank production is scheduled for August 1988 or sooner, if possible.

Thinking beyond the M1-series tanks and M2-M3 fighting vehicles, we are developing a concept for a family of future armored combat vehicles. Scheduled for a late 1980s research and development start, this program will give the Army significant improvement in force effectiveness by exploiting high-technology improvements. The combat vehicle family will support our needs well beyond the year 2000.

Another example of the emphasis on increased lethality is in the munitions area. Technology is dramatically altering the approach to fire support. Massed fires are becoming precision fires. Advanced munitions will be directed at targets rather than at points in space. Their lethality will result from having a self-contained capability to select targets and home in on them.

These "smart" munitions represent the most significant change in conventional indirect-fire support in the Army's history. Microelectronic technology makes it possible to build into missiles and projectiles the ability to detect targets with a variety of advanced sensors. This technology will significantly reduce logistics and manpower requirements while increasing lethality.

The Army's current force structure initiatives reflect changing strategic concerns. As the focus shifted from Vietnam to the potential armored and mechanized battlefields of NATO Europe, force structure became heavier to counter the Soviet threat. Therefore, we applied technologies to support a heavy mechanized force; but in light of the current need for rapid deployment, we are seeking ways to reduce the average weight and size of equipment. Exciting advances in this process have produced a new nonmetallic composite armor, which has been tested on the M2 and M3 Bradley fighting vehicles. This plastic armor, reinforced with E-glass and S-2 fibers, has been demonstrated on a Bradley turret, with a weight savings of 15 to 20 percent. An unanticipated finding is that the glass laminate is a better damper of sound and vibration from the main gun than aluminum.

Trends in the force at large also reflect down-sizing. For example, the advanced field artillery tactical data system (AFATDS) now in development will be considerably better and smaller than its predecessor "Tacfire". In addition, the logistics community will replace large computers with smaller and easily portable models.

The Army is emphasizing improvement in ammunition logistics. The new initiatives include improved plastic packaging for current and future ammunition that will be lighter, less bulky, easier to handle, cheaper and will be easier to decontaminate, by possessing better nuclear, biological and chemical protection characteristics. A technology base program has been established for improvement of ammunition packaging and handling.

The demand for logistical support can be reduced by implementing the down-sizing and weight reduction initiatives in our "Army of Excellence" force structure goals. One of the driving factors in down-sizing the force is to make it more supportable and deployable; however, the anticipation of greatly accelerated consumption rates of supplies and attrition of equipment have made the challenge of improving our support capability even tougher.

The Army has recently established a number of "battlefield sustainment objectives." They reflect the complex nature of sustainment issues, but are ultimately concerned with reducing the demand for logistical support. The objectives are:

- Balance prepositioned war reserve stocks against requirements.
- Significantly reduce maintenance requirements.
- Eliminate unneeded weight and bulk.
- Reduce the money and manpower demands of the logistics system.
- Field survivable logistics support systems.
- Create a capability to manage mass casualties.
- Protect industrial-base resources.

Industrial-base preparedness is a matter of great concern. Wartime sustainability requires funding support for the necessary mobilization manufacturing capacity in U.S. industry. The objective of this program is to satisfy materiel demands at a prescribed level within one year of the decision to expand production. These plans involve billions of dollars and have not been well supported in the past. We must focus on this in the future, within the constraints of a limited budget.

We must maintain a limited number of government-owned manufacturing facilities which are either government or contractor operated. These plants manufacture major items, large-caliber munitions and special propellants that. Funding to support a "surge" production capability for selected, highly critical items is essential.

The Army is not standing still. Force modernization is real and must be completed. While we are working at improving our force through acquisition of new systems we must diligently conduct research and development for the future or we will place ourselves in the dilemma that faced us following the Vietnam conflict. To control this monumental task requires that we all work together to provide our most important asset—the soldier—the equipment needed to perform in a most effective manner. The RDA community is totally dedicated to that effort.

TECHNOLOGY BASE

Unrelenting quantitative and qualitative advances by our potential adversaries underscore the necessity for realistic, comprehensive, and innovative long range RDA planning for our Army of Excellence. Technology and telesis (progress that is intelligently planned and directed) are more important now than ever. During the past year, we have continued to improve our long range RDA plan, which is the starting point for our budget and 5-year plan preparation, and the roadmap for our technology base investment strategy. Our plan is built upon realistic threat forecasts, AirLand Battle Doctrine, frank assessment of our deficiencies as identified by the Battlefield Development Plan and Mission Area Analysis process and solid technology forecasting. The resultant technology base investment strategy matures technologies needed by future systems, exploits our current technological advantages, accelerates high leverage technologies and nurtures emerging technologies. Our hierarchy of RDA plans is extensive, comprehensive, consistent, and ranges from the HQ DA Long Range RDA Plan to the Mission Area Materiel Plans of our major development commands to the science and technology plans of our laboratories.

This year's FY88-2002 long range RDA plan supports achievement of five Key Operational Capabilities which are prerequisites to victory on the future battlefield. Capitalizing on those high leverage and emerging technologies for which we have an advantage, the concept of the Key Operational Capabilities permits us to realize the full potential of our nations technology capability.

The technology base is maturing technologies in time for future systems development and product improvements of current systems to eliminate deficiencies and seize opportunities. One example is the Light Helicopter Family (LHX) program. Army laboratories working with the other Services, NASA and industry are maturing the technologies required for LHX. A FY88 full scale development start for LHX would not be possible without these efforts. Examples include: advanced composite airframe structures; very high speed integrated circuit technology insertion; crew workload AirLand and man-machine interface simulation; advanced digital-optical flight control system, sensor fusion: automatic target recognition: survivability demonstrations; and expert systems for diagnostics. This technology is important to several other future systems such as the

Armored Family of Vehicles currently in concept formulation. The LHX will be the first rotorcraft designed from the outset with the aid of extensive engineering simulation, mission simulation and wind tunnel testing.

The Army technology base continues to integrate, focus and apply high leverage technologies for each of the Key Operational Capabilities.

- Reconnaissance, Surveillance and Target Acquisition (RSTA)–Very intelligent surveillance and target acquisition technologies will permit the fusion of data from multiple sensors to provide information needed by the Army commanders on the fluid, complex battlefield of the future. Near-realtime presentation of ground based and airborne radar, optical and human intelligence will provide the needed increases in lethality and survivability. Millimeter wave technology is being pursued to permit a sensor to see and terminal homing missiles and artillery rounds to engage targets through battlefield smoke, fog and dust. Advanced visible and infrared technology is making a major contribution to our ability to passively detect and identify targets at night and under adverse weather conditions. This past year we demonstrated the first uncooled sensor array for night vision. AirLand battlefield environment tactical decision aids will provide information on terrain, weather and battle-induced contaminants and intelligence regarding the effectiveness of friendly or threat weapon systems and operations.

- Command, Control and Communications (C3)– Distributed C3 technologies and networks will enhance communications and the reliable distribution of information to all levels of command. Digital burst transmission techniques, millimeter wave and higher frequency spectra, and fiber-optics are being pursued to improve jam and intercept resistance and continual information transmission.

- Battlefield Lethality--Self-contained munitions technology will allow munitions after launch to autonomously search, acquire, select and home in on hostile targets. Benefits include increased kills per missile or round fired, greater survivability for the launch vehicle or battery and lower cost per kill. Advances in fiber-optics, infrared, electro-optical, radar, fuse, warhead and delivery system technologies are being pursued. Our Armament Enhancement Initiative Program is focusing technology efforts on defeating the armor threat of the 1990s. Recent accomplishments in battlefield lethality include the successful flight demonstration of the ground launched fiber-optic guided missile (FOG-M).

- Battlefield Sustainment- Logistics R&D is being expanded to improve weapon systems reliability and maintainability, reduce consumption, reduce manpower intensity and reduce operating and supportcost. Expert system technology for helicopter diagnostics and condition monitoring is being demonstrated to reduce the number of inspections and scheduled maintenance tasks by monitoring flight data. The cognitive skills of the expert maintainers and diagnosticians are instantly made available to the lesser experienced maintainer. Our food technology program has demonstrated a light weight mobile combat feeding system for the soldier in the field that provides high nutrition, prepackaged, labor-free hot meals for the unit on the move.

- Soldier and Unit Performance Enhancement- Proper soldier-machine interface is receiving increased emphasis not only in the design and development of our equipment, but also during the concept formulation and technology development stages. Soldier-machine interface technologies will improve training, expand individual capabilities and make it easier to operate sophisticated equipment. Robotics, expert systems and artificial intelligence will reduce the workload, enhance the performance of human operators and reduce the number of required operators. Computer generated imagery and display technology for more realistic mission simulators and embedded training technology are but two of the advanced technologies contributing to rapid training advancements.

Our 6.1 basic research program supports both theoretical and experimental research by Army laboratories, industrial laboratories and over 200 universities. These universities and labs are the birthplace of the emerging, high leverage technologies of the future. This year's budget includes the University Research Initiative (URI) for ten scientific areas vital to our Army of Excellence. This is part of a DoD-wide competitive program initiated in FY86 with U.S. universities. The successes of our Centers of Excellence for Rotary-Wing Aircraft Technology at Georgia Institute of Technology, University of Maryland and Rensselaer Polytechnical Institute prove the mutual benefits of this program to the Army, industry, universities and the nation. The URI program stimulates fundamental research vital to the Army, provides a valuable pool of high technology expertise, speeds the infusion of emerging technologies from academia to industry, promotes a stronger university/Army laboratory interface and produces scientists and engineers educated in disciplines critical to the Army. The URI addresses ten vital technology areas: manufacturing science; reliability and maintainability technology; electro-optics; signal processing and image understanding; advanced propulsion systems; geosciences; fast reaction kinetics; intelligent control systems; high frequency microelectronics; ultra dynamic performance materials; biosystems and biotechnology and advanced construction technology.

MEDICAL RESEARCH

Together with modern battlefield weapons systems, the soldier must be considered a "System" and, as the operator, is the most vulnerable and critical component in the array of battlefield systems. The Army medical research and development program is geared to address performance degradation factors that could make this system inoperable or cause it to operate at reduced efficiency due to physical, psychological, or disease-related stresses in a variety of climates and hostile environments, both in peacetime and during periods of hostilities.

Many of the normal, daily hazards to the soldier come from sources such as blast overpressure from artillery, combustion fumes from explosions, and radiation from laser, microwave, and radar systems. Army Medical Research addresses these environmental and occupational hazards.

Advances are also being made to aid the soldier in dealing with natural stresses. These include heat, cold, altitude, sleep deprivation, exhaustion, and the psychological strain of the battlefield. Our personnel are more likely to become casualties from infectious diseases that have decimated military forces during past wars than from any manmade weapon system. Exploiting high payoff technological opportunities in development of drugs, vaccines, and devices for the diagnosis, prevention and treatment of communicable diseases is crucial for success in this area. Monoclonal antibody productions, genetic engineering, novel drug delivery systems, immune enhancement and biomicrosensor development are being actively pursued.

Recent advances in biotechnology are being utilized to speed the process of vaccine development. A notable accomplishment in this area was the development of a vaccine against falciparum malaria. This strategy is being applied to develop vaccines against other parasitic diseases to include African sleeping sickness and leishmaniasis. Recombinant DNA and monoclonal antibody techniques are being used to prepare diagnostic reagents field kits for use in rapid identification of BW agents and natural diseases in the field.

Ribavirin, an anti-viral drug was found to have a curative effect against Korean and Argentinian hemorrhagic fever viruses. A recombinant Rift Valley fever vaccine was found to be very effective in animals.

During periods of hostilities, the soldier may be incapacitated or at reduced efficiency due to the effects of chemical, nuclear, or biological weapons. In support of the soldier on the modern battlefield, new techniques in disease prevention, self-treatment, patient management, resuscitation, and decontamination have been and are being developed. The cyanide antidotes, sodium nitrite and sodium thiosulfate were repackaged and included into the chemical treatment set at battalion aid stations. A prototype vital signs and heart rate monitor has been developed. we have completed operational testing on a prototype patient wrap. Development was completed on a prototype individual soldier resuscitator. We also initiated a soldier performance battery testing with pyridostigmine.

Improved treatment of combat casualties requires earlier diagnosis and treatment of hypovolemic shock. In addition to improved resuscitative fluids, drugs that may "buy time" until adequate volume replacement can be effected are under investigation.

Research aimed at reducing mortality and morbidity due to head missile wounds is a high priority. Improved management of burn wounds is sought through improved dressings, skin substitutes, and epithelial growth systems.

Combat medical materiel items being developed include field production of oxygen and medical grade IV water, field medical refrigerator, heated patient liner for the transportation of casualties, and wheeled litter carrier.

Research in the area of combat dentistry currently includes the following major efforts: the development of synthetic, biodegradable implant materials to replace missing facial bone segments that will accelerate wound healing and simplify final surgical reconstruction; completed advanced development and field testing of a computer-aided post-mortem identification (CAPMI) system; sucessfully laboratory tested a second prototype light-weight hand-held field dental x-ray.

Research in stresses to the soldier-operator produced by materiel systems, battlefield environments, and natural environmental extremes has resulted in a data base and performance criteria for acute mountain sickness. We also conducted field testing of the Combat Feeding System, the largest test ever undertaken of a military field feeding system.

Anticipated FY87 efforts include: field testing vaccines such as malaria, Korean and Argentinian hemorrhagic fever viruses, Rift Valley fever virus, salmonella-shigella (dysentery) vaccine,and anti-malarial drugs. We plan to test prototypes of on-site oxygen generation systems, resusciatative fluid production systems and a high capacity x-ray system. Other efforts will include work on: pharmacological intervention of soldier performance to include jet lag, fatigue and sleep reversal. Futher efforts include: work/rest cycle, family/individual/soldier cohesion, development of artificial skin and a blood preservation system.

Furthermore the following are also planned for FY87: field testing of CAPMI; clinical trials of wound dressings; preparation of sustained time release microencapsulated antibiotics for prevention of wound infection; oral pyridostigmine; production of a patient wrap; a full scale production of chemical warfare agent decontamination resin; and development of a second generation nerve agent pre-treatment and antidotes.

These accomplishments are merely a few of the highlights of an extremely complex and broad research effort encompassing all aspects ofpotential hazards to the soldier, the crucial "system" on the technologically complex modern battlefield.

STRATEGIC DEFENSE

Since the 23 March 1983, speech by the President in which he announced the goal of eliminating the threat posed by ballistic missiles, a program called the Strategic Defense Initiative (SDI) has been established. The SDI, under the centralized management of the Strategic Defense Initiative Organization (SDIO), Office of the Secretary of Defense, is charged with pursuing technologies for defense against ballistic missiles. Emphasis in the program is being given to non-nuclear weapons for defense. The funds for this critical research program are controlled by SDIO and allocated to the Services for execution on a task basis. The Army portion of the SDI has been in being for more than 25 years and received renewed interest and direction with the formation of the U.S. Army Strategic Defense Command (USASDC) on 1 July 1985. The Commanding General, USASDC, acts as the single point of contact in the Army for SDI matters.

After the Congressionally directed termination of the Army-developed BMD SAFEGUARD system in 1975, the U.S. has not had a deployed BMD SYSTEM. However, a continuing R&D program in BMD technology verification and functional experiments has evolved. It promises new technologies and refined system concepts to provide reduced risk and technically advanced options for consideration for future full-scale development. The potential for highly effective defensive systems has never been greater. New systems concepts possess potential for countering attacking ballistic missiles in all phases of their trajectories. Progress has been dramatic in expanding and advancing the technology base from which these future BMD systems will evolve. As a result, the program is in a position to make substantial contributions to the Strategic Defense Initiative technology efforts.

The Army strategic defense program has been conducting R&D aimed at increasing the capabilities and effectiveness of defensive systems for over 25 years. Because of these efforts, the Army has established a highly experienced BMD organization with an extensive technical data base. The Army is therefore uniquely capable to support the Strategic Defense Initiative through early demonstrations of defense capabilities.

Major program thrusts are aimed at demonstrating system and subsystem concepts and developing the mature technologies necessary to support them. Significant effort will be put into defense definition, experiments of aircraft mounted optical sensor adjuncts, terminal imaging radar, advanced radar discrimination, and nonnuclear kill interceptors. Nonnuclear Kill (NNK) mechanisms both within the atmosphere (Endoatmospheric NNK) and outside the earth's atmosphere (Exoatmospheric NNK) and outside the earth's atmosphere (ExoatmosphericNNK) are the major thrust of the program. In addition, experiments will proceed on a terminal defense radar, command, control communication/battle management (C3/BM) system, and data processor. Advanced technology work, to expand the basc from which new systems will evolve, will continue on a broad front, including research on directed energy and kinetic energy weapon technologies, advanced sensors, battle management, data processing and discrimination missiles.

Systems concepts being examined include endoatmospheric and exoatmospheric defenses. The integration of these into a multi-tiered defense in depth provides a logical and evolutionary growth path for BMD to a wide range of future options to counter a continued buildup of the Soviet threat in both quantity and quality. These options provide the flexibility required for the various potential BMD missions. For example, a defense in depth could provide protection to critical military and industrial installations and other high value targets. By pursuing a broadly based effort, the BMD program maintains the flexibility to provide defense options for many different applications and thus support the President's goal of eliminating the threat posed by ballistic missiles.

The BMD program also operates the Kwajalein Missile Range (KMR) as a national range. The simultaneous use of KMR for both strategic offensive and defensive program testing provides a unique opportunity to collect realistic data vital to both efforts. The ability of the BMD program to observe and analyze development and operational ICBM firings allows cost savings in the tens of millions of dollars yearly. Kwajalein is the only range in the free world that can accommodate full-scale ICBM tests and provide sophisticated data collection for the terminal and midcourse portions of the trajectory. KMR is a unique national resource, utilized by the Services, NASA and other government agencies.

The Army Strategic Defense Program, through its broadly-based R&D efforts, seeks to develop multi-tiered defense capabilities and conductearly demonstrations of critical defense components. The development of nonnuclear kill systems will continue to receive high priority. The BMD program, by building on the existing infrastructure and emphasizinge volutionary development, is able to accomplish these goals and offer a wide range of options for the defense of the country.

CLOSE COMBAT

Frontline troops require close combat systems

The Close Combat mission area relates to weapons and equipment which are used to bring direct, line-of-sight fire upon the enemy. The soldiers who fill this role are often referred to as "frontline troops" and their job is to close with and destroy the enemy. To do so, they must be well led, well trained, and provided with the equipment that will give them an edge over their adversaries. The next several paragraphs will describe those close combat equipment systems for which we are requesting funds in the FY87 budget.

The M1 Abrams—Main power of the battlefield

The main offensive and defensive ground weapon of both the US and Soviet ground armies is the tank. In a combined arms role, tanks can dominate the battlefield, spearheading the offensive, killing other tanks, devastating "soft" targets, and driving through defensive positions with massive momentum. Equally adept on the defensive, the tank provides a ground commander with unequalled capability to counter enemy offensive ground weapon systems. The tank is essential to success on the modern battlefield. The Army's main battle tank, the Abrams, is the most powerful, mobile, and survivable combat vehicle we have ever fielded, and we believe that it can outperform any other tank on the battlefield.

M1 Abrams

Agility

The agility of a tank is a major element in determining its effectiveness and survivability on the battlefield. A 1500-horsepower turbine engine supplies the Abrams with double the power of its diesel-powered predecessor, the M60. Coupled with an improved suspension system, its agility is unsurpassed by any tank in the world today. Its stabilized sighting system ensures that speed is combined with accurate firepower.

Accuracy

Tankers are able to routinely hit 5-foot targets over a mile away while moving rapidly cross-country. This kind of shoot-on-the-move accuracy is made possible by design features of the fire control and improved suspension systems. The gunner puts his sight on the target and finds the range using a laser rangefinder; a computer automatically determines the ballistic data and adjusts the lay of the main gun; the gunner need only squeeze the trigger to hit the target.

Shooting-On-The-Move

Survivability

The future battlefield will be thick with antitank weapons. Therefore, the Abrams is protected by advanced armor. This, plus its low silhouette and agility, increases its survivability on the battlefield. If the tank is penetrated, a number of revolutionary safety features greatly enhance the survivability of the crew and the vehicle. These include an automatic fire detection and extinguishing system and armored compartments that separate the fuel tanks and main gun ammunition from the crew. The Abrams' passive thermal imaging system allows location of targets at night and through dust, haze, fog, and smoke without disclosing the tank's position. Initial delivery of the product improved M1 the M1A1s began in August 1985. The M1A1 incorporates the German-designed, US-manufactured 120mm smoothbore gun, improved NBC protection system and improved armor. The addition of the 120mm gun will insure that US tanks can keep pace with improvements in Soviet armor expected in the late 1980's and beyond. The major advantages of the 120mm gun system are greater kill capability and growth potential to meet advanced armor threats.

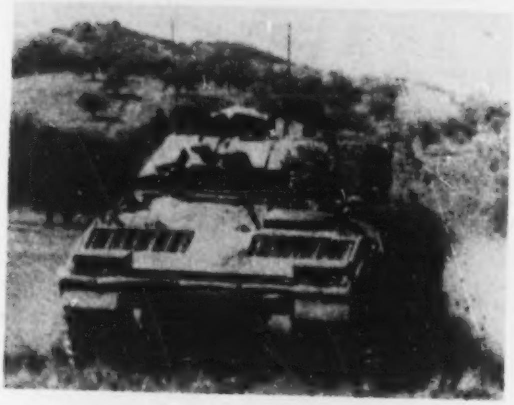
A proven performer

The soldiers' appraisal of the M1 can be summed up in one word—winner! They found the M1 Abrams easier to maintain than the M60 tank and able to shoot more accurately while moving cross-country at high speed. The Army has fielded 32 battalion equivalents. A North Carolina National Guard Armored Battalion (a 2d Armored Division round-out battalion) has received its tanks underscoring our commitment to modernize the reserve components. The FY87 budget provides for 840 M1A1 Abrams Tanks. We have produced 3,056 Abrams tanks as of 31 December 1985.

M60A3—Still a capable tan

The M60A3, a product improved M60 tank, is still a formidable tank. It is a quality tank that will continue to see service into the 1990's because we cannot afford to replace our entire fleet of M60 series tanks with the Abrams. The M60A3 model incorporates a laser rangefinder and a ballistic computer for accurate ranging and improved fire control solutions, and a thermal sight that gives the crew an improved capability to detect targets in darkness and on an obscured battlefield. In FY87 upgrade of the M60A3 will continue with the incorporation of applique armor and an automatic fire supression system to improve survivability.

M60A3



Bradley Fighting Vehicle

The Bradley Fighting Vehicles

The history of modern warfare has vividly demonstrated that tanks are critical to success on the battle-field. Operating independently, however, they are vulnerable to antitank fires from enemy infantry. Therefore, mechanized infantry must be combined with tanks to assure a blend of maneuver forces that will provide the flexibility necessary to defeat any threat. The Bradley Fighting Vehicle is an ideal partner for the Abrams. This vehicle has two configurations, the Infantry Fighting Vehicle (IFV) and the Cavalry Fighting Vehicle (CFV).

The Bradley Fighting Vehicle provides vastly improved cross-country mobility, firepower, and armored protection to the mechanized infantry squad. In intense combat situations, the tank-infantry force must be supported on the move by continuousand accurate fire. The primary weapon of the IFV is a stabilized, dual-fed 25mm automatic cannon. The commander or gunner can instantly select either high-explosive or armor-piercing rounds. The high-explosive round can destroy unarmored ground targets out to 2500 meters, while the armor-piercing rounds are capable of penetrating and defeating the Soviet BMP. The two-man turret also has a two-tube TOW missile launcher and a 7.62mm coaxial machinegun. The TOW gives each squad the capability to engage enemy tanks at long range from overwatch (protected) positions.

The IFV has vision blocks, through which members of the squad it transports can view the battlefield and direct fire from their modified M-16 rifles through individual firing ports. This permits continuous observation of, and contact with, the enemy while on the move. Once outside the vehicle, troops can move toward the objective supported by a high volume of firepower from the vehicle's other weapons.

The CFV is identical to the IFV except for minor modifications for crew size and equipment. The CFV carries a five-man scout squad and provides the cross-country mobility and mounted firepower necessary for armored cavalry and battalion scout squads to carry out reconnaissance, security, and economy-of-force operations.

M2-3 Bradley Fighting Vehicle

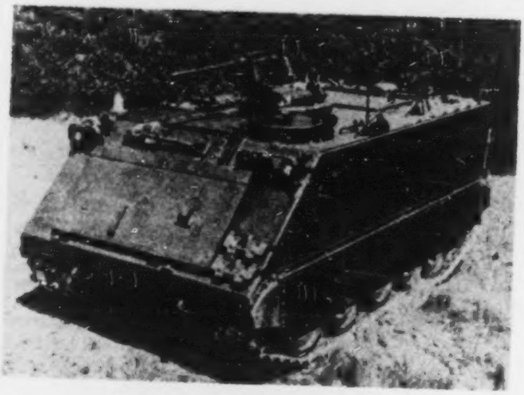
Both the IFV and CFV have an inherent swimming capability and are air transportable in either the C-141 or C-5A aircraft. These fighting vehicles match the highway and cross-country mobility of the Abrams tank. Furthermore, they provide soldiers significant protection from enemy small caliber weapons, heavy machine guns, artillery airbursts and antipersonnel mines. A thermal night sight insures that this potent weapon system maintains its capability during night operations. No fighting vehicle available in the world today matches the all-around capabilities provided by the Bradley.

Bradley: Demonstrated all-around capabilities

The first Bradley production vehicle was delivered to the Army in May 1981. Today, we are producing the Bradley at a rate in excess of 50 vehicles per month. The first mechanized infantrybattalion was equipped in March 1983 at Fort Hood, Texas, and the first European battalion was equipped in September 1983. The North Carolina National Guard has also received six CFV's. As of 31 January 1986, 2142 Bradleys have been accepted by the Army. Seventeen battalion equivalents have been fielded. The FY87 budget supports the production of 870 Bradley vehicles in the BFVS-A1 configuration. This vehicle includes the TOW-2 system, a tank killing armament, which allows the Bradley to shoot through obscurants while counteracting jamming.

Like the Abrams tank, the Bradley is a winner in the view of the soldiers who use it. It provides them a capability they have never had on the battlefield before. The Bradley is a superb fighting system today which can be made even better by product improving it like we do all our systems. The Army is currently developing a series of survivability improvements to make it even better.

The M113 family of vehicles continues to serve the Army in a variety of combat, combat support, and combat service support roles. The Army has begun survivability modifications to enhance the capability of this fleet into the 1990's. Improvements include spall suppression liners which decrease the spray of shrapnel in the event of vehicle penetration. Additional improvements are armored external fuel tanks, improvements to the power train and provisions for add-on armor kits to increase protection levels for the crew. The powertrain improvements increase reliability and maintainability while providing the power increase needed to assure adequate agility and mobility on the battlefield.



M113 Armored Personnel Carrier

M113

Another variant of the M113 vehicle family is the M577 Command Post Vehicle which provides command and control facilities for both forward maneuver and support forces. It features a raised top deck section that permits stand-up work within the carrier and an auxillary power unit to permit operation with the main engine shut down. The FY87 budget will procure 300 new M577'sagainst existing shortages.

Attack helicopters continue to be a key element of our Army's combat capability. They provide our forces with a highly mobile, long range, day/night lethal antiarmor fire capability, coupled with the anti-materiel, antipersonnel effect of cannon and 2.75-inch rockets. The attack helicopter was first used in combat in Southeast Asia where it proved to be a great asset to our light infantry forces.

Attack Helicopter's inherent mobility

Because of its inherent mobility, attack helicopters will play a major role in any situation that requires our forces to react quickly. They can strategically deploy to reinforce Europe or respond to other contingency requirements; they can fly rapidly across a wide front to areas that cannot be reached easily by ground mobile forces and they provide a significant advantage in target-rich environments where exploitation is feasible. In Europe, a ground attack on our forces will be spearheaded by masses of armored vehicles. Soviet doctrine stresses building overwhelming momentum with blitzkrieg-like tactics. Frontages mandate that we concentrate on their main avenue of approach and quickly counter their armored thrusts. No other weapon system offers the combination of high movement rates, freedom of the tyranny of terrain, and long-range point target destruction capability, around the clock, even during adverse weather conditions like that of the attack helicopter.

The large number of attack helicopters that the Soviets have fielded in recent years shows that their leaders share our belief that the attack helicopter will play a vital role in any future land battle. The importance of attack helicopters, and the recognition of Cobra/TOW performance limitations, led to the development and procurement of the Apache Attack Helicopter (AH-64). The Apache represents a significant increase in performance, firepower, and survivability when compared with its predecessor—the AH-1S Cobra. More important, the Apache provides the

AH-64 Attack Helicopter

Army a mobile, lethal antitank capability that can be quickly deployed worldwide to areas of strategic concern. Apache's ability to operate worldwide over a broad spectrum of environments may be the difference between success or failure.

Appache Attack Helicopter: An all-environment performer

The powerful, two-engine Apache has been designed from the start to perform anywhere in the world under the most demanding conditions of altitude and climate. Its agility enables pilots to take advantage of the terrain, vegetation, and even buildings to avoid detection. A target acquisition/designation sight (TADS) and pilot night vision sensor (PNVS) enable the crew to navigate and attack in darkness, bad weather and on an obscured battlefield.

Survivable

Apache carries a formidable array of weaponry. The main armament is the Hellfire, a third-generation antiarmor missile. Apache's other armament includes the 30mm chain gun and Hydra 70 multi-purpose submunition rockets, which are lethal against a wide variety of targets and complement the antiarmor Hellfire missiles. The Apache's performance characteristics, coupled with survivability features such as armor protection, redundant controls, and electronic countermeasures equipment, make it one of the most survivable systems on the battlefield. A total of 67 Apaches have been delivered to the Army as of 31 December 1985. Training of pilots and maintenance personnel is underway to support fielding of the first Apache unit during the spring of 1986. The FY87 budget provides for procurement of 144 Apache helicopters at the economic rate of 12 per month.

Cobra/TOW: Effective but limited

Like the M60 series tank, the AH-1 Cobra helicopter has been continually upgraded to improve its operational capabilities, safety, and survivability. While these improvements will contribute to its effectiveness and survivability against armor, the Cobra is currently a daytime helicopter with limited aircraft performance capability when operating in a characteristically hot Middle Eastern environment. To correct the night-fighting shortfall, approximately 500 Cobras, will be modified with a Forward-Looking Infrared System (FLIR) to provide a night target engagement capability. The FY87 budget also funds other improvements and continues the Cobra Fleet Life Extension (C-FLEX) program. The C-FLEX program will enable the Cobra to continue in use beyond the year 2000.

The use of scout helicopters to seek and select targets enables attack helicopters to conserve fuel and ordnance, and allows the commander to concentrate his antitank capability at critical points. Upon acquiring targets, the scouts position the attack helicopters, determine the distribution of fires, laser designate targets for the Hellfire missile, and coordinate artillery fires throughout the battle area. During the battle, scouts provide real-time battlefield information relating to the enemy situation and targets destroyed.

Scout Helicopters

Apache with Hellfire

Additionally, the scout is a responsive system to refine intelligence from other sources and integrate all forms of firepower against the target.

The Army Helicopter Improvement Program (AHIP) upgrades part of the scout fleet into an improved observation helicopter. Engine performance and rotor improvements make the AHIP better able to operate on hot days and at high altitude. The mast- mounted sight incorporates a laser designator and a forward looking, infrared capability for night and adverse weather operations. This mast mounted sight allows the helicopter to remain masked behind the terrain with only the sight exposed. In addition to the employment of conventional artillery the AHIP has the capability of acquiring and designating targets for Copperhead and other Army or Air Force precision guided munitions.

AH-1S Cobra/TOW

Army Helicopter Improvement Program

The AHIP program, based upon modification of an existing light observation aircraft, complies with Congressional guidance and shows significant savings when compared with a new airframe development program. Advanced procurement funding in FY86 and procurement funds in FY87 will provide for the conversion of 48 aircraft in FY87.

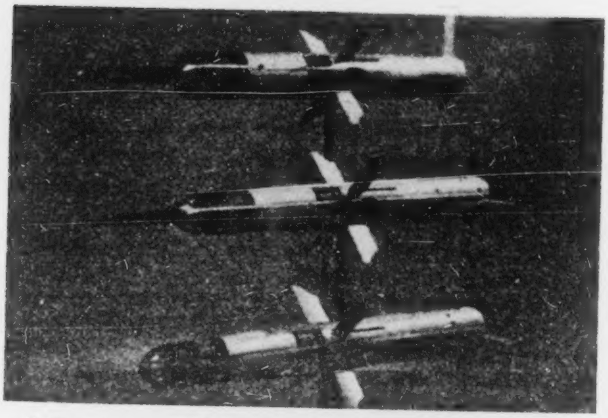
The TOW missile system, which is found on the AH-1S Cobra, the Bradley Vehicles, Improved TOW vehicles, the HMMWV, and with the dismounted infantry, is the most powerful antitank weapon used by ground units. This long-range (3750 meters) antiarmor system is a prime example of evolutionary development. First fielded in the late 1960's, the TOW has been improved to keep pace with the evolving Soviet tank threat. The latest improvement, designated TOW 2, will give the weapon an even more lethal 6-inch warhead, greater speed to reduce vulnerability, and improved guidance and electro-optical countermeasures for an obscured battlefield environment. Deliveries of TOW 2 began in 1983 and it was deployed to Europe in October 1984. Fielding is now complete in Europe, Korea and Panama. FY 87 funds will be used to procure TOW 2 missiles and launcher modifications.

Army Helicopter Improvement Program

The Swedish AT4, type classified M136 on 11 Sep 85, will replace the 1958 vintage M72 LAW. The AT4 provides the dismounted soldier with a lightweight, one shot munition that will enable him to effectively engage a variety of hard targets on the battlefield. This proliferable system will not require a dedicated gunner and will be issued to personnel as needed for mission accomplishment. The AT4 allows the soldier to engage and defeat targets at significantly greater ranges with a higher probability of kill than the current M72A3 LAW. The weapon is also being procured by the Marine Corps and the Navy.

Squad Automatic Weapon

The Squad Automatic Weapon (SAW) is a lightweight, manportable weapon capable of delivering a heavy volume of effective fire up to a range of 800 meters. It provides increased range, volume of fire, and better penetration than the M16A1 rifle which it replaces as the squad automatic



TOW-2, Improved TOW, Basic TOW (Top to bottom)

Squad Automatic Weapon

weapon. The fielding of this weapon will provide a significant increase in overall squad firepower.

Mortars

The mortar, although an indirect fire weapon, is included in the close combat mission area since it is used by forward combat units. The Army is replacing the present 81mm mortars with an improved 81mm mortar which incorporates a British manufactured mortar barrel and bipod mount and a US base plate and sight. It will fire an improved high-explosive round that will accommodate a multioption fuze and achieve extended range, increased accuracy, and higher lethality. Improved smoke and illumination projectiles are also under development. The FY87 request is for 450 systems. The Army will also replace the aged 4.2 inch mortars with the 120mm mortar. The 120mm mortars will be at the battalion level in mechanized, armored and motorized divisions. First unit equipped is expected to occur in 2nd quarter FY87.

Mark 19

The Mark 19 Mod 3, 40mm automatic grenade launcher fires antipersonnel and anti-light-armor grenades to a maximum effective range of 1600 meters. The MK19-3 will be used in the main battle area by infantry units, and by combat support and combat service support units to conduct rear area security missions. It replaces selected M2 (.50 caliber) and M60 (7.62mm) machineguns and will be mounted on ground mounts and on Army vehicles such as the High Mobility Multi-purpose Wheeled Vehicle (HMMWV).

Night vision devices will allow battle operations in the dark

Nightfall will no longer curtail battle activities. Because of advanced night vision devices, night will simply mean a slightly altered environment to soldiers in a future war. This is possible through the Army's use of two different types of night vision equipment: image intensifiers and forward looking infrared imagers. The latter is also referred to as "FLIR" or "thermal imaging".

Systems incorporate thermal imaging for night activities

Image intensifiers see in darkness by amplifying the dim starlight and moonlight reflected from an object. The image intensification devices are lightweight and provide excellent resolution while "seeing" in the dark. These devices are for the individual soldier as well as the wheeled and tracked combat vehicle. The AN/AVS-6 and AN/PVS-5 are night vision goggles for aviators and ground soldiers. The night vision device for the M16 and M60 machinegun is the AN/PVS-4 and the AN/TVS-5 is designed for the M2 (.50 cal) machinegun. The AN/VVS-2, Drivers Viewer, gives the tracked vehicle driver a greater mobility capability, while driving at night.

Another family of night vision devices is thermal imaging. By sensing the temperature difference between an object and its surroundings, these devices allow the soldier to "see" through darkness, smoke, haze, fog, and battlefield obscurants to recognize and identify targets. The Army systems incorporating thermal technology include a family of manportable systems consisting of the AN/TAS-4A, TOW Night Sight; AN/TAS-5, Dragon Night Tracker; and AN/TAS-6, Night Observation Device Long Range (NODLR). The M60A3 and M1 tanks incorporate the AN/VSG-2 and TIS, respectively, for gunner and commander use. The AH-64 APACHE attack helicopter uses the TADS/PNVS for fire control and pilot's night vision. The Bradley fighting vehicle also incorporates a FLIR in its integrated sight unit.

The Army's technology in night vision devices clearly leads that of Warsaw Pact Nations; however, the gap is closing. Therefore, we must continue technology efforts towards developing newer generation devices—so that we can use darkness to our advantage on the future battlefield.

Advanced Antitank Weapon System

The Advanced Antitank Weapon System-Medium (AAWS-M) will be a manportable weapon employed by dismounted infantry at the platoon level to defeat current and future Soviet advanced armor. The system will provide a high probability of kill in all realistic battlefield environments and in the presence of electronic/electro-optical countermeasures. The AAWS-M, which will replace the DRAGON system, will be developed to address the deficiencies of that system and will possess the growth potential to counter evolving armor threats. The AAWS-M will have a weight of no more than 45 pounds and an effective range of 2KM or more under day or night conditions. The tactical system will consist of a round (missile and throwaway launch tube) and a reusable command and launch unit (CLU). Increased gunner survivability will be a primary employment consideration. The system soft launch capability will enable firing from protected fighting positions; an all-environment sighting/surveillance capability coupled with extended range will enable the targets to be engaged earlier than DRAGON, thereby improving gunner survivability.

The next section on fire support mission area discusses how those frontline soldiers are supported.

FIRE SUPPORT

The Fire Support mission area includes those systems that are used primarily to generate indirect firepower. The systems in this mission area include not only conventional, nuclear, and chemical firepower provided by cannons, rockets, and missile systems, but also the target acquisition and fire control elements integral to field artillery systems. This section will address the Army's longest range systems first and then will discuss direct support artillery weapons, fire control, target acquisition systems, and finally ammunition developments.

Soviets attack in depth

Soviet doctrine emphasizes the use of echelonment in depth. Warsaw Pact forces attack with successive waves of forces, massing as necessary through the use of mechanized armament systems to achieve victory. We must, therefore, be able to strike early and strike deep with great accuracy and massive firepower. We must also be capable of attacking enemy units up to the forward edge of our own troop positions with concentrated, accurate, and readily available firepower.

The Soviet's early use of their own artillery will make this task even more difficult. Their doctrine stresses the use of concentrated artillery fire in coordination with blitzkrieg-like maneuver of troops. The Soviets greatly outnumber us in artillery and have the potential to strike our positions with massive amounts of indirect fires. To preclude this, our own field artillery must be able to neutralize their indirect fire systems through effective counterfire.

Pershing II

Pershing II achieves surgical accuracy

The Army's most powerful weapon is the Pershing II, which has more than twice the range of the existing Pershing Ia and far better accuracy. It employs radar area correlation to achieve its pinpoint accuracy. Radar "pictures" of the target area are put into the onboard missile computer prior to launch. As the reentry vehicle approaches the general target area, it takes its own radar "pictures" of the terrain, comparing them to the original. By making course corrections until the two pictures coincide, the missile can achieve surgical accuracy. This permits the use of a relatively small nuclear warhead that reduces collateral damage to the minimum. Pershing II is in production and completed deployment in December 1985.

The Lance missile system, which was fielded in the mid- 1970's, is our

Lance strikes in depth

current system used to attack second-echelon enemy formations and for delivery of short-to-medium range nuclear fires. Lance can deliver a 1000 pound conventional warhead to a target located over 70 kilometers away. Enemy logistics facilities, air defense sites, and communications centers are prime targets for this warhead.

To improve the conventional capability provided by Lance and to eliminate many of its shortcomings, e.g., slow rate of fire, manpower intensity, limited range, etc., a follow-on program called the Army Tactical Missile System (ATACMS) is being pursued for the late 1980's/early 1990's fielding.

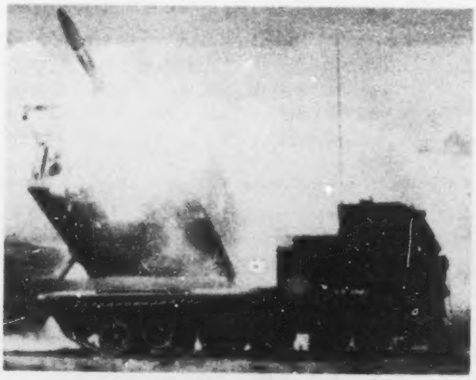
Army TACMS engages indepth battle areas

Army TACMS is an improved conventional ballistic missile system that will be used by the corps commander to destroy, delay, or neutralize enemy forces far beyond the range of cannons and rockets. The corps, by slowing down the enemy's ability to reinforce and support the central battle, can overcome the expected unfavorable force ratio. The requirement for Army TACMS also includes the attack of surface-to-surface missile (SSM) transporter erector launchers (TEL) as part of the anti-tactical missile (ATM) mission. Army TACMS will be transported and launched from the Multiple Launch Rocket System (MLRS) launcher. FY87 funds provide for a continuing development program to lead us to an early Initial Operational Capability (IOC).

While we must be prepared for both nuclear and nonnuclear contingencies, our first response capability must be adequate conventional firepower. As enemy units advance, there may be critical periods when large numbers of targets threaten to overwhelm the capacity of tube artillery. When this happens, we must be able to strike deep with great accuracy and massive firepower, as well as be capable of attacking enemy units up to the forward edge of our troop positions with concentrated, responsive fire.

Multiple Launch Rocket System provides massive and accurate fire power

The Multiple Launch Rocket System (MLRS) is the system that fills this need. It provides the Army with its first multiple rocket artillery capability since World War II. The MLRS rocket warheads contain a large number of improved conventional submunitions which are dispensed from the rocket high over the target and blanket the area with explosives and fragments. These submunitions are devastating against targets such as air defense sites, artillery positions, and troops in the open. The submunitions are also effective against the thin top armor of tanks and other fighting vehicles. The MLRS will be used against concentrations of enemy vehicles, enemy artillery, and as an air defense suppression means.



Multiple Launch Rocket System

The system also has incorporated a number of built-in efficiencies. The rockets are sealed in pods for shipment and require no maintenance after leaving the factory. The MLRS tracked carrier vehicle is a derivative of the Bradley Fighting Vehicle and has the same power train and level of armor protection for the crew's protection. Although normally operated by a three-man crew, in an emergency one soldier can operate the entire system. Devices on the launcher can determine both location and direction, and an on-board computer unit computes fire commands, sets fuzes, and automatically fires the rockets. The vehicle cab is designed so that crew-members can remain in the cab during rocket firing. It also has a positive overpressure system to protect the crew in the cab from exhaust gases during launch. The FY87 Budget is for continuation of the fifth year of a five year multiyear contract of this important new system.

Terminal Guided Warhead

The MLRS was developed by the US in cooperation with Germany, France, the United Kingdom, and Italy. In conjunction with Germany, France, and the United Kingdom, we are pursuing the development of Terminally Guided Warhead (TGW) submunitions. These submunitions will enable the MLRS to attack hard point targets in excess of 30 kilometers from the launcher. The concept calls for a rocket to fly to the kill zone, where the warhead will dispense multiple submunitions that seek out and destroy enemy hard targets. The FY87 budget will provide the continued funding for TGW component development and demonstration.

M198 Howitzer

M198

The M198, 155mm Towed Howitzer, is the general support artillery for the non-mechanized divisions. It is also our newest howitzer. It is capable of firing 30 kilometers using a rocket assisted projectile. The M198 provides major increases in range and reliability over its predecessors and may be delivered by parachute or carried by a variety of cargo aircraft and the CH-47 helicopter. The M198 can fire scatterable mines, nuclear rounds, improved conventional munitions (ICM's), conventional high explosives, and Copperhead. Although our budget does not contain M198 procurement funds for this fiscal year, our long-range plan forecasts additional procurements beginning in FY88 and continuing through FY91.

M119 for light divisions

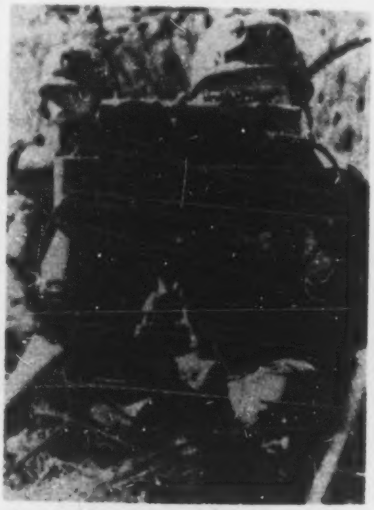
The Army's Light Divisions have a requirement for a lightweight howitzer with increased range and lethality over the existing M102 105mm howitzer. The Army has been testing the in-production British Light Gun (L119) and in December 1985, type classified it for procurement as the M119. In 1987, the first year of procurement, 64 units will be purchased. Compared to the M102's range of 11.5KM, the M119 fires conventional HE to 14.3KM and 19.1KM with a Rocket Assisted Projectile (RAP) which is in development. A Dual Purpose Improved Conventional Munition (DPICM) is also being developed for the M119, a munition with a great increase in lethality. Under a licensing agreement with the UK, all UK production will occur, to be followed by co-production and then total on-shore U.S. production. The 105mm howitzer is scheduled to begin fielding in FY88.

Improvements are part of overall modernization

The mechanized and armored portions of our force structure have the M109 self-propelled 155mm howitzer and the M110 8-inch self-propelled howitzer. These weapons date back to the 1960's, but have been improved over the intervening years. We have extended the range of the 155mm howitzer to 24 kilometers and the range of the 8-inch howitzer to 30 kilometers using rocket-assisted projectiles. We are continuing to modify the M109 in order to extend the life of the system to at least the year 2000. In this year's budget request we have asked for continued funding to procure modification kits that will provide increases in survivability and capability.

M109 Howitzer Improvement Program

We are also conducting research and development of improvements that will provide additional increases in armament reliability and survivability against NBC attack and counterfire, as well as increased responsiveness and reduced crew fatigue. The howitzer improvements are only part of the overall effort leading to modernization of the Artillery System.



G/VLLD

Ground/Vehicle Laser Locator Designator

The Ground/Vehicle Laser Locator Designator (G/VLLD) is used by artillery forward observers. This dual-purpose device is used by a forward observer to determine target ranges precisely and to designate targets for laser-guided projectiles, missiles, or bombs. The G/VLLD achieved its initial operational capability in 1982. The FY87 budget provides for continued procurement. In our armored and mechanized units the Fire Support Team (FIST) requires a mounted vehicular capability. The new Fire Support Team Vehicle (FISTV) will give the FIST armor protection, mobility, and built-in communications which will enable it to operate with fast-moving armor, mechanized infantry, and cavalry units, and be responsive to the maneuver commander.

FISTV: Responsive to commanders

The FISTV represents a combination of new laser improved artillery observer equipment with the proven performance of the M113A2 personnel carrier. The vehicle is very similar in appearance to the Improved TOW Vehicle and incorporates the G/VLLD in an armored, elevated module mounted on an M113A2 chassis. The FISTV is equipped with a north-seeking gyro that provides the directional data needed for accurate artillery fire requests. It can operate in hull defilade with only the elevated G/VLLD module exposed, thereby increasing survivability. The FY87 funding provides for continued procurement of FISTV Modification Kits. The Army plans to convert 178 M113's to FISTV's this year.

The first vehicles were fielded to the 24th Infantry Division in August 1985. The effective management of the enhanced capability we have been describing is an important responsibility of the Field Artillery. Specifically, our artillerymen have the "fire support mission" for the collective employment of mortars, field artillery, air support, naval gunfire, and other lethal and non-lethal (smoke, illumination) attack systems in support of combat operations. To accomplish this mission, fully automated support for planning, coordination, control, and execution of close support, counterfire, interdiction, and air suppression fires is required to maximize our combat power.

Fire Support Team Vehicle (FISTV)

TACFIRE: Severely limited for tomorrow's battlefield

Our Field Artillery Tactical Fire Direction System (TACFIRE), as currently fielded, represents first generation technology that provides automated data processing of technical fire control data, selection of munitions and volume of fire for enhanced target accuracy. However, the requirements for a total fire support package that provides (1) development of targets and delivery of fires; (2) coordination and control of fires and fire support assets; and (3) planning for future operations represent severe limitations for TACFIRE on tomorrow's battlefield. In essence, TACFIRE will not meet the data processing needs of the fire support system for the 1990's and beyond. It also is not economically smart to produce TACFIRE spare parts by mid 1990 because of outdated technology. TACFIRE's replacement, The Advanced Field Artillery Tactical Data System (AFATDS), will significantly broaden and modernize the US Army fire support command, control, and coordination systems. The AFATDS will expand the TACFIRE capabilities with no increase in personnel requirements and will provide automated support for the Fire Support Control Segment of the Army Command and Control System (ACCS) during the 1990-2010 timeframe. Compatibility and interoperability will be provided with all existing and planned US Army Field Artillery Systems to include sensor systems, related NATO systems from the United Kingdom (BATES) and the Federal Republic of Germany (ALDER), the Marine Integrated Fire and Air Support System (MIFASS), and other Functional Control Segment Systems in the command and control architecture.

AFATDS: Expanded automated capabilities

The AFATDS will retain selected systems of the present TACFIRE for total system integration. For example, the related technical system which provides firing data to each individual weapon will be retained. The Fire Support Team and Forward Observer Digital Message Devices will continue to be the "forward entry devices" in AFATDS and are "not" part of the AFATDS funding program.

Lastly, AFATDS represents the Army's first automated program that is truly software driven. Specifically, prior to any final hardware consideration, user requirements must be accurately defined and then translated, through software development, into a DOD higher order level language (Ada). Once the user software is written, then the hardware will be selected. This approach ensures users satisfaction; it maximizes detailed functional definition of the fire support, command, control and coordination requirement; it provides a basis for a market survey for procuring hardware components that is driven by the user requirements.

Target acquisition within the fire support mission area is of equal importance to fire delivery and control systems. The Firefinder system, consisting of AN/TPQ-36 mortar-locating radar and AN/TPQ-37 artillery locating radar, provides our soldiers the ability to automatically detect and locate enemy batteries in realtime and to attack them with timely and accurate counterbattery fire. The final procurement requests for Firefinder were FY81 (AN/TPQ-36) and FY83 (AN/TPQ-37), with the last units scheduled for delivery to the Army from these buys in July 1986 (AN/TPQ-36) and March 1987 (AN/TPQ-37). Plans project completion of fielding in 1988.

The effective use of field artillery weapons depends upon accurate location, direction, and estimates of the influence of the atmosphere on artillery projectiles, rockets, and missiles as they travel to their targets. We now have automated systems to provide these data.

Artillery survey workload reduced

The Position and Azimuth Determining System (PADS) is an automated, self-contained inertial surveying system which provides the field artillery with a secure, all-weather, day/night means for rapid survey control. Surveys that normally take the conventional five-man survey party 12 hours can now be accomplished by a two-man PADS party in less than two hours. The FY87 request will purchase 107 systems which will add to the 360 systems already procured.

Improved accuracy via timely meteorological data

The new Meteorological Data System (MDS) will insure that artillery fires are corrected for changing atmospheric conditions. This is significant since greater ranges of artillery projectiles will cause them to be exposed to atmospheric effects for increased periods of time. Reliable data are also required on how weather will affect electronic warfare and battlefield obscurants employed by the enemy. In a "dirty battlefield" environment, where anything from a severe storm to chemical or nuclear conditions may prevail, we must have timely meteorological data. The MDS will accurately measure the atmospheric variations and automatically transmit those variations to TACFIRE and other automated systems that compute artillery firing commands.

Ammunition stabilization provides warfare capability

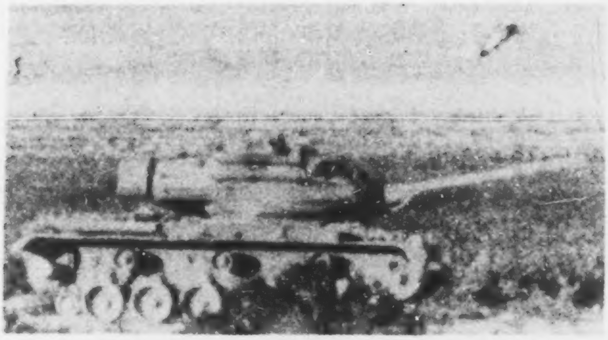
Our ammunition request provides for increased readiness by buying more rounds for artillery for essential modernization by procuring smart munitions such as Copperhead, and for improved sustainability through modernizing old production facilities and increasing explosives and propellants production capability. Each component of the ammunition budget responds to a deficiency in readiness, modernization, or sustainability. The stabilization of the ammunition account is key to providing the warfighting capability we need. Within the Army budget, field artillery ammunition has been allotted the largest portion of our resources for munitions procurement. Major items in this category are 8-inch and 155mm Improved Conventional Munitions, 155mm Area Denial Artillery Munitions and Remote Antiarmor mine system projectiles.

Munitions R&D

Opportunities exist for making our weapons more effective through the use of modern munitions and advanced guidance systems. By making greater use of these technologies we can achieve a significant increase in our conventional capability in a cost-effective and timely fashion. The munitions research and development programs cover all types of conventional munitions from exploratory development through engineering development. Major areas include: technical base programs for large caliber munitions development and ballistics technology work applicable to all systems; development of modernized ammunition for the 105mm howitzers; field artillery munitions such as the Sense and Destroy Armor munition—a top attack, antiarmor submunition employing improved sensing for broad application to weapon systems such as the MLRS and 155mm howitzer; and numerous smaller projects for the development of fuzes and propellants. The FY87 request will allow the Army to continue this critical research and development area.

Copperhead: Dramatic increase in single-shot kill probability

A successful product of munitions research and development is the precision guided projectile known as Copperhead. Until the advent of Copperhead, the field artilleryman faced the statistical probability of wearing out his gun tube before hitting a moving tank. This laser-guided 155mm howitzer projectile changes those odds dramatically. Copperhead is the only deployed field artillery munition with the ability to yield a high probability first round kill against moving hard point targets.



Copperhead

Field Artillery Ammunition Support Vehicle (FAASV)

Copperhead is fired from existing 155mm howitzers. It uses a built-in, semiactive laser seeker which makes it possible for the round to destroy stationary or moving armored and other high value targets, at ranges up to 16 kilometers, with a high single shot kill probability. As the projectile descends toward the intended target, its laser seeker searches for and acquires the reflections of a laser beam. This beam can be projected onto the target by G/VLLD, FISTV, AHIP or Apache helicopters or by a remotely piloted vehicle. The projectile corrects its course through the use of its fins as it "homes" to the laser spot on the target.

Copperhead has been in production since 1981 with over 15,745 rounds produced through FY85. Since July 1982, Copperhead has demonstrated better than 80% reliability. FY87 funding will be used to maintain production at efficient rate while continuing to build up our war reserve inventory.

FAASV

As a part of our modernization effort, we are also looking at improvements in ammunition hauling, handling, and survivability. In FY83 we initiated procurement of the Field Artillery Ammunition Support Vehicle (FAASV), which is equal in mobility to the self-propelled howitzers in our inventory and provides armored protection for both crew and ammunition. FAASV is being procured for deployment in Europe, Korea and select CONUS units. The FY87 request will add 141 FAASVs to the Army inventory.

AIR DEFENSE

The Army's Air Defense mission area includes those activities involved with the detection and engagement of the enemy air threat with ground-to-air gun and missile systems, in coordination with the other combined arms and Air Force interceptor aircraft.

Soviet air threat

Without adequate air defense coverage, ground combat elements, supply lines, command centers, Air Force strike bases and other high-value targets are exposed to destruction by fixed-wing and rotary-wing attack aircraft. Warsaw Pact forces have over 3,600 combat aircraft in Central Europe, including bombers, fighters, and helicopters. Quality and quantity are on the rise. Ground attack aircraft such as Flogger, Fencer, and a new production ground support fighter, combined with the HIND and HAVOC attack helicopters pose a deadly threat to armor and mechanized forces. In addition to the aircraft threat, there is an increasing threat from the growing numbers and types of tactical missiles and air-launched missiles.

Air defense modernization

For many years, short range air defense was provided by Redeye, Vulcan and Chaparral with medium to high altitude air defense provided by HAWK and Nike-Hercules. The Army's current air defense modernization program provides a new mix of systems that will be effective against the growing air threat through the 1990's.

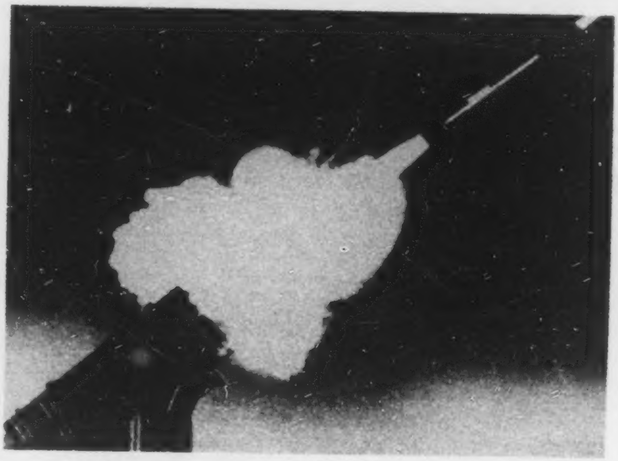
Patriot: A key system

In future wars, we can expect to experience saturation raids by large numbers of sophisticated aircraft employing intense electronic countermeasures. In response to this, we are fielding Patriot as a replacement to Nike-Hercules and improving the HAWK missile system.

One of the main shortcomings of Nike-Hercules, which was in the force from 1958 to 1985, was that a battery could only engage one target at a time. The operator had to wait until the missile intercepted the target before firing another missile. Patriot, on the other hand, can attack and destroy several enemy targets while simultaneously tracking other targets.

Reduced Manpower

Due to its advanced technology, Patriot is operated with fewer soldiers than its predecessors. Each Patriot launching station contains four ready-to-fire missiles. The missiles, which are sealed in canisters that serve as both shipping containers and launcher tubes, require no field maintenance. Each Patriot battery contains up to eight trailer-mounted launchers that can be



Patriot

I-HAWK

widely dispersed. Communication with the Engagement Control Station is made via secure data link.

Multiple engagement capabilities

New Guidance concept

Enemy targets can be tracked and prioritized for destruction through the interaction of Patriot's radar and computer. The radar can guide several missiles at the same time, updating priorities as threat aircraft are engaged. Patriot employs a new guidance concept called Track-Via- Missile. As the missile reaches the area of an enemy aircraft, it informs the radar where it is in relation to the target. A computer then makes calculations and directs the missile on a path that insures a kill. Operating modes vary from manual mode to fully automatic mode. The system's two operators always retain full override capability over computer decisions. The Patriot system is currently in production and is being adopted by our NATO allies. The first fully trained and operational battalion was deployed to Europe in early 1985. The second battalion was deployed in September 1985. The FY 87 budget will support the procurement of additional fire units and the continued fielding of the system.

I-HAWK. Upgraded and reliable

The mainstay of the Army's low to medium altitude air defense is the HAWK missile system. Although Patriot will replace some HAWK units, the HAWK force will be retained indefinitely. Ongoing and planned product improvements will upgrade Hawk performance to meet the projected threat through the 1990's. HAWK will have simultaneous engagement capability against close-in saturation attackers, increased detection range, improved reliability, and greater effectiveness against jamming. Twenty-two foreign countries have the system, and procurement interest has been expressed by several others. Part of this worldwide acceptance can be attributed to HAWK's performance in the 1973 Mideast War, where, in its basic configuration, it destroyed more than 20 MiG's and other aircraft. The FY87 budget will continue the product improvement program and will procure replacement rocket motors.

The Army-led, Antitactical Missile (ATM) program began in FY83 to develop counters to the growing tactical surface-to- surface missile threat. The program consists of concurrent near-term to long-term approaches to solve counterforce, terminal defense, and battle management problems. Near-term efforts upgrade existing air defense systems to field an early point terminal defense capability against conventional tactical missiles. Mid-term efforts focus on development of counterforce and anti-cruise missile capabilities. The full solution will include both active and passive countermeasures, and will require a combination of systems, including Army TACMS and current Army air defense systems as well as possible new systems, sensors and battle management capability. FY87 funds will provide for research and development work in threat vulnerability, counterforce requirements and terminal defense capability.

The Army is committed, as a top priority, to solve the critical shortfall in air defense for our forward maneuver elements created by the SGT YORK program termination. A Forward Area Air Defense Working Group (FAADWG) has developed a Counter Air Concept using air defense artillery, the other combined arms and the U. S. Air Force to counter the growing air threat. The FAADWG identified an air defense program that integrates weapon systems, sensors and command, control and communications architecture into a system optimized to counter the entire spectrum of the air threat. The FAAD program is a system of major subsystems consisting of a command, control and intelligence subsystem; a non-line of sight weapon; line of sight weapons for the forward and rear of the division and combined arms initiatives including air-to-air Stinger, improved tank ammunition and potential improvements to the Bradley Fighting Vehicle gun and fire control. Combinations of available air defense weapons and new technologies are being carefully looked at to provide the needed forward air defense. A final list of candidates will be identified and evaluated in FY86/FY87. FY87 funding is essential to the rapid fielding of this integrated air defense program.

The first major element and keystone of the FAAD system is a modern command, control, and intelligence subsystem which will integrate forward air defense weapons into a quick reacting, comprehensive, and lethal arsenal. The Forward Area Air Defense Command and Control and Intelligence (FAAD C2I) subsystem (formerly SHORAD C2) is being developed to provide maximum effectiveness from our forward area air defense weapons. This C2I effort focuses on increasing the probability of successful engagement of hostile targets by insuring rapid, timely acquisition and dissemination of information on the air combat situation.

The present forward area air defense method of accomplishing command and control is totally manual. Weapons control information and sensor data from Air Force and high to medium altitude air defense systems is provided to forward area air defense weapons via voice communications. This information is received at a central control facility at the forward area battalion where it is manually filtered, plotted and retransmitted by voice to the appropriate air defense and ground combat elements. This method is time consuming and limits the probability of successful air defense operations.

The FAAD C2I development will automate and streamline this process to enable us to successfully engage the air threat within the division airspace. Computer processors, graphic displays, control terminals and data links will replace most human actions and voice communications. The new subsystem will provide forward area gunners and commanders with the required data quickly and simply and with responsive, flexible, less restrictive weapons controls. The FY87 funds continue full- scale engineering development of the switching architecture and selection of the ground sensor that is planned to begin in FY86. FY87 will also continue concept development for an aerial sensor.

Tri-service development of "friend or foe" identification system

The intelligence part of FAAD C2I includes the sorting of friendly and hostile aircraft during aerial combat. The ability to positively identify hostile aircraft remains a significant limitation to our air defense forces, particularly for short range air defense weapons which are currently limited to visual aircraft identification and identification friend or foe localized to individual weapons. In the future we expect to be able to operate beyond visual range through our weapons improvement and acquisition programs. Our efforts are focused on noncooperative identification of both hostile and friendly aircraft. Several of these have shown excellent potential in early demonstrations. We are making limited improvements in our current cooperative friendly identification systems and participating in tri-service development of a new cooperative friendly identification system for selected air defense systems.

Improved positive hostile and friendly identification capabilities combined with improved, automated command and control capabilities will maximize the effectiveness of our air defense forces. FY87 funding continues development and testing of improved identification capabilities.

The second subsystem in the Forward Area Air Defense System is the Non-line-of-sight weapon. The weapon is intended to be employed in defilade behind the FLOT and out of range of enemy direct fire systems. This subsystem, will give the Army Air Defense the capability to kill helicopters either hovering behind mask or on the ground. The Fiber Optic Guided Missile (FOG-M) is a candidate for this mission. The FOG-M is a precision guided missile which uses a fiber optic cable to transmit seeker images to the control vehicle and guidance commands to the missile. The weapon is a relatively mature system which has been developed largely by the Army's Missile Command. Alternative concepts for the Non-line-of-sight weapon including a ground launched version of the Advanced Medium Range Air-to-air missile (AMRAAM) are also being investigated. FY87 funding is critical to the early fielding of this part of the Forward Area Air Defense system.

The third component of the FAAD are Line-of-sight-forward weapons which will be used in the close combat zone of both light and heavy forces. These weapons are designed to kill or suppress enemy fixed wing and exposed rotary wing aircraft. A gun/missile mix is contemplated to optimize the strength of both weapon types. In general guns are more cost effective and provide quick reaction high volume fire against the close-in targets. Missiles are more effective against the longer range targets. A request for information has already been released to industry to assist in the preparation of material requirements for the heavy division. Because there are numerous weapons which could potentially perform the LOS-F mission an IOC as early as 1989 is conceivable. However, this is predicated on FY87 funding.

The fourth element of the FAAD system is the Line-of- sight-rear weapon better known as Pedestal Mounted Stinger. This weapon uses the manportable Stinger missile fired from a fire unit mounted on a High Mobility Multipurpose Wheeled Vehicle (HMMWV) and will provide defense for the rear area of the division. Pedestal Mounted Stinger will be procured in FY87 as a non-developmental item based on an FY86/87 evaluation of candidates.

Until the FAAD system is fielded the Army will rely on Stinger, Chaparral, and Vulcan to perform forward air defense.

STINGER

Stinger is the Army's manportable air defense missile system. It provides air defense protection for forward deployed ground combat units. Although Pedestal Mounted Stinger will eventually replace most MANPADS teams, Stinger will continue to be used in its shoulder fired configuration when required. Stinger was developed to replace the aging Redeye system, which was first fielded in the mid-1960's and had limitations when matched against the current and projected enemy air threat. Stinger was deployed to active Army units in Europe in February 1981.

Stinger overcomes many of Redeye's shortcomings with improved range and maneuverability, the ability to attack much faster targets, and, most

STINGER

Chaparral

important, the ability to attack aircraft from any angle. The missile uses a passive infrared seeker. A proportional navigation system enables the Stinger to fly an intercept course to the target. The high-explosive warhead is designed to penetrate the aircraft before exploding in order to insure a kill. These capabilities provide an enormous advantage over the Redeye system, which is a "revenge" or tail-chase system only.

STINGER-POST

Stinger was designed with built-in growth potential. An improved Stinger seeker, Stinger-POST, completed development and a production contract was signed in FY83. This seeker improves Stinger performance in a countermeasure environment. Development of the Reprogrammable Microprocessor (RMP) for the missile began in September 1984. FY87 funding will continue the production of Stinger-POST (RMP).

Chaparral was first fielded in 1969. It will remain in the active inventory through the 1990's. Chaparral is also being provided to the Army National

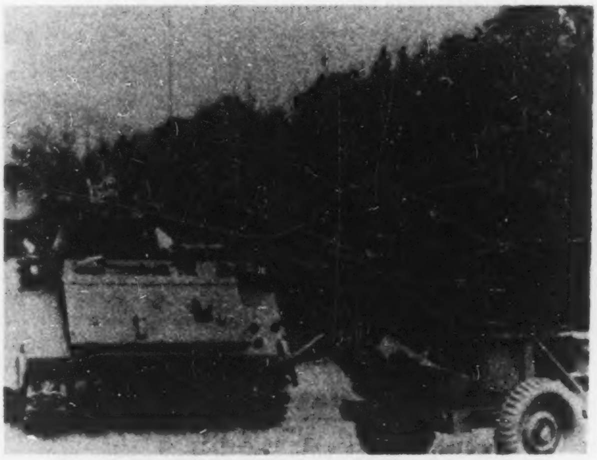
Guard as part of their modernization program with the first battalion fielded in 1985. To keep Chaparral current against the threat's countermeasure capability, a new seeker using Rosette Scan Seeker (RSS) technology started production in FY86 with initial facilitization. The first production buy of new seekers will occur in FY87.

Chaparral: Cost-effective and continually improved

Improvements fielded to date include an improved infrared guidance which provides a forward engagement capability, an Identification Friend or Foe (IFF) System to assist the gunner in identifying friendly aircraft, a smokeless rocket motor that increases survivability by reducing the visible smoke trail when the missile is launched, and a Forward Looking Infrared (FLIR) night sight for improved adverse weather and night target acquisition. Future improvements include adding other modifications to improve system performance, reliability and NBC protection.

The Product Improved Vulcan Air Defense System (PIVADS) was developed to improve tracking and gun pointing accuracies and increase maintainability and availability of the current 20mm Vulcan air defense gun to provide an interim capability. Improvements include the replacement of the present disturbed reticle by a director type sight, the replacement of the analog computer with digital fire control electronics, modification of azimuth and elevation systems to reduce backlash and incorporation of built-in-test equipment. A contract has been signed for 285 PIVADS kits and modification is expected to begin in early 1987.

PIVADS improves tracking and aiming capabilities



Product Improved Vulcan

COMBAT SUPPORT

We are well acquainted with the Soviet employment of massed armor and the formidable threat it poses to our forces. Minefields and other obstacles which are tied to natural terrain features and integrated into the battle plan serve as a significant combat multiplier. Properly integrated minefields and obstacles serve to slow the rate of movement of mechanized forces thus enhancing the effectiveness of our direct and indirect fire systems. They also serve to force the threat to alter his tactical maneuver plans and force the employment of time and resource-intensive breaching systems. The formations become compressed, thus providing greater vulnerability to our armor killing weapons systems. Should the enemy attempt to simply run through the minefields, he will pay a heavy price in tanks. Our modern mine systems have significantly improved lethality. Finally, attempts to avoid the mined area require modification of his maneuver plans at the Operational level. Again, his maneuver rate is slowed and may well force him into other preselected kill zones, disadvantageous terrain or to adopt other less desirable options such as dismounted maneuver.

On the fluid, rapidly changing battlefield of the future, it is imperative that minefields be emplaced as the ebb and flow of the battle dictates. In the past, the emplacement of mines was a slow, laborious and logistically intensive process and the mines had to be emplaced long before the enemy commanders intentions became clear. Our new Family of Scatterable Mines (FASCAM) changes this situation. Our new delivery capabilities significantly improve emplacement time and provide for a more flexible response to changing tactical situations. Additionally, we have attained a new capability with these systems,. We can now employ mines in rear area on key targets such as artillery units, Command and Control centers, logistic complexes, concentrations of armor and routes which may or are being used by reinforcing or counter attacking units.

Minefields help deal with massed armor

The Remote Anti-Armor Mine (RAAM) and the Area Denial Artillery Munition (ADAM) are 155mm artillery delivered mines and are in production. We will continue to provide for RAAM and ADAM procurement in FY87.

The Volcano mine dispensing system will begin procurement in 1987. Volcano is a rapid mine dispensing system with mines loaded into mortar-tube-like canisters which are placed in common dispenser racks for helicopter and ground vehicle use. Volcano initially provides for the urgent need for rapid employment of large tactical minefields in the light forces. In the outyears, the Volcano ground system will replace the GEMSS in heavy forces. The Modular Pack Mine System (MOPMS) will begin production in 1986. The MOPMS is a foot-locker sized module containing 21 mines. The MOPMS replaces the heavy and bulky conventional mines now used as a basic load in combat arms units and will also be used in special mining situations such as closing lanes and gaps in large tactical minefields. MOPMS mines are explosively deployed from the module when a threat arises. Otherwise, the module is retrieved for future use.

The other side of the Mine Warfare picture is our need for countermine equipment. The threat has learned the historical value of mines well and is prepared for the employment of mines during all phases of the battle. We can expect him to fully exploit his extensive mining capability. Our combat units require versatile and effective countermine systems to provide the freedom of maneuver necessary in the AirLand Battle. We are far from having a satisfactory countermine capability in the field, while the Soviets are well equipped in this critical area. Continued procurement of several key countermine systems is supported in the FY 87 budget. The Mine Clearing Line Charge (MICLIC) is an explosive line change which clears a path 8 meters wide and 100 meters long through deliberately placed minefields. The mine clearing roller and plow systems which are mounted on tanks provide flexible and effective breaching equipment in nearly all terrain and weather conditions for the numerous hastily emplaced minefields we will encounter.

As key members of the Combined Arms Team, engineers have the responsibility for providing specialized support to ensure the mobility, countermobility and survivability of the maneuver elements. In the lethal environment of the main battle area, the combat support role of the engineers greatly increases the combat effectiveness of our fighting forces by providing terrain reinforcement, construction of fighting positions and obstacles, breaching barriers, clearing obstacles and preparing bridge crossing sites. Today, this mission is even more critical as the battlefield becomes increasingly mobile.

Armored combat earthmover

Armored Combat Earthmover

The M9 Armored Combat Earthmover (ACE) is uniquely capable of accomplishing mobility, countermobility, and survivability tasks in the forward area of the battlefield. The M9 has the speed and all-terrain mobility to move with the combat force and provide critical support when and where needed. The M9 offers armor protection against artillery fragments and light direct fire weapons as well as operator protection against chemical and biological agents. The M9 is air transportable and air dropable. It can swim, dig, bulldoze, haul, and move with the flow of the battle. The M9 is an essential element of the combined arms team on the highly lethal and mobile AirLand Battlefield.

Chemical threat

Chemical warfare may very well be the Army's most vulnerable area in the 1980's. Even though the US is formally committed to the policy of "no first use" of lethal or incapacitating chemical agents by adherence to the Geneva Protocol of 1925 and seeks a complete and verifiable ban of lethal chemical weapons, the threat to our forces is high. Today, US forces are facing a chemical threat from an adversary that is the best prepared nation in the world in the use of chemical warfare. Without question, the Soviet Union possesses a formidable offensive capability to wage chemical warfare for an extended period and their leadership continues to devote significant resources to research, development, and procurement of more advanced chemical weapons and equipment. They also have a large and well equipped dedicated chemical force. All units within their armies train extensively for chemical warfare.

Stockpile—Aging and inappropriate

Given the disparity between US and Soviet chemical warfare capabilities and evidence of Soviet use of chemical warfare directly or through surrogates, we must promptly modernize our own retaliatory capability. The US currently has a limited stockpile of chemical munitions. All of these munitions are of the unitary design; that is, they contain the actual agent in its final form. These munitions are all over 16 years old, and they are costly to store, maintain in a usable status, and transport in a safe manner. Additionally, the stockpile is composed of weapons and agents that are inadequate and in some cases inappropriate for the modern battlefield. The

Binary concept

best option for developing and insuring a credible retaliatory stockpile in support of the national policy of deterrence is binary modernization. The binary concept uses two separated nonlethal chemical components that combine during the flight to the target to form a lethal chemical agent. In addition to the added safety and flexibility afforded by binary munitions during production, storage, and movement, binary modernization will allow us to update weapon and agent mix. An R&D effort is underway to apply binary technology to rocket warheads.

The Congress, recognizing the need to modernize the chemical weapons stockpile, appropriated $23.15 million in FY81 for construction and facilitization of the Integrated Binary Production Facility at Pine Bluff Arsenal, Arkansas, to allow for future production of the 155mm GB-2 (nonpersistent) artillery round. Initial construction began in October 1981, and was completed in December 1984. The Army FY87 program includes funds for procurement of 155mm projectiles. Also, the Army ammunition production base in the FY86 program provides for facilities to produce Bigeye Bombs in support of Navy and Air Force procurements.

Chemical protection equipment

In addition to modernizing the chemical weapons stockpile, we must continue the procurement of chemical protective equipment in FY87 to improve the ability of our forces to survive an initial chemical attack. More procurement, research, and development are required before we can sustain combat operations in a chemically and biologically contaminated environment. A new protective mask providing improved protection and a simplified collective protection system for use by tactical units will continue to be procured in FY 87. Also, collective protection systems will continue to be integrated into our command, control and communications systems and combat vehicles.

The FY87 chemical-biological program continues our efforts with universities and industry to broaden the technology base required to support materiel needs and to develop improved chemical-biological defense materiel. Development will be completed on numerous collective protection equipment for shelters, vans, and vehicles. Chemical- biological agent detection and alarms development will continue on a remote sensing alarm, an automatic chemical agent detector and alarm, and an automatic liquid agent alarm. Development of a mechanized NBC reconnaissance vehicle was initiated in FY 85. Work will also continue on improved decontamination systems including non-aqueous decontamination systems for tactical vehicles and equipment, and a dual purpose system that will be capable of making smoke for battlefield obscuration decontaminating equipment exposed to chemical-biological agents.

Nuclear artillery projectiles have provided part of the US nuclear deterrent for the past 30 years. Currently fielded nuclear artillery projectiles, which incorporate 1950's era technology, must be replaced to assure continued reliability and effectiveness. Modernization programs are underway. We are currently completing procurement of the 8-inch nuclear artillery projectile and development of the improved 155mm nuclear projectile is continuing. These nuclear artillery projectile programs will provide a Short-Range Nuclear Force (SNF) that will continue to provide a credible nuclear deterrent by assuring the collective survivability of NATO SNF and enhancing the survivability of our conventional firepower.

Deep reconnaissance capabilities

Today's battlefield requires the commander to be able to look over the next hill out to 300 kilometers deep into the enemy's rear. The commander must be able to acquire data necessary to assess the situation, target a threat force and execute real time operations continuously and simultaneously to interdict threat forces. Unmanned aerial vehicles (UAVs) have the potential to improve the commander's ability to accomplish these tasks. UAVs have the capability to fulfill important battlefield functions: target designation and artillery adjustment; reconnaissance, surveillance, and target acquisition; attack, command, control and communications; air defense early warning, psychological operations; deception and provide meteorological data. Based on the combat oriented functions, the Army has defined three categories for its family of UAVs: TADARS, General Purpose and Expendable. The Army has defined two current members of the UAV family: the general purpose Corps Intelligence Electronic Warfare (IEW) UAV and TADARS Aquila.

The Army has defined the requirements and a non-development item (NDI) acquisition approach for the Corps IEW UAV, which will be started in FY86 and FY87.

RPV fills need for timely intelligence

The Aquila is a militarized system designed to perform target designation, artillery adjustment and laser designation in a high intensity combat electronic warfare environment. The Aquila can fly above key enemy zones in order to gain required data when the defensive strength of the enemy is likely to make manned reconnaissance extremely risky.

RPV

The Aquila Full Scale Development (FSD) flight testing started in July 1982. Since then more than 278 flights have been flown with an overall success rate of 92%. The system has experienced technical performance problems. In recent tests, paid for by the contractor, launch, recovery, navigation, telemetry of TV video, jinking, 3-hour endurance, long-range hand-off between ground control stations and laser designation for Copperhead against both stationary and moving targets have all been successfully demonstrated. FY86 RDTE funds will support continuation of developmental and operational tests, continuation of development of the FLIR night vision sensor. FY87 RDTE funds will complete operational testing of Aquila and continue FLIR development. Aquila procurement will begin in FY87 with acquisition of an increment of the training base.

Joint Tactical Fusion Program

Modern sensor systems are capable of providing massive volumes of raw intelligence data. In order to be of use to the tactical commander, the collected data must be correlated, integrated, and interpreted with minimal delay. The manual processes now employed in the analysis of tactical intelligence information are inadequate to cope with the volume of collected data in sufficient time to satisfy the commander's needs. This is particularly true in an AirLand Battle, Deep Attack environment, where effective employment of new weapons systems depends on timely and accurate information on enemy activity. The Joint Tactical Fusion Program will remedy this situation through the introduction of automated tactical intelligence fusion systems for the Army and Air Force. The Army system, the All Source Analysis System (ASAS), will provide automated assistance to intelligence processing (fusion) and will also support related areas such as target development, collection and mission management of intelligence and electronic warfare systems, and operations security. The Enemy Situation Correlation Element (ENSCE) will perform similar functions for the Air Force and is being developed concurrently with the All Source Analysis System. Maximum commonality in hardware and software is planned between the Army and Air Force systems to ensure that the ground and air commanders share a common perception of the enemy situation. Current plans call for fielding of baseline fusion systems beginning in the mid- 1980's. These systems will undergo evolutionary development leading to the fielding of objective systems in the early 1990s.FY87 RDTE dollars will complete the design of the large intelligence processing and communications interface modules, type classify the analyst workstation, deliver intelligence processing software for PACAF/USAFE computers and develop the first software release ASAS/ENSCE. FY87 OPA dollars will procure limited capability configuration ASAS for the USA Intelligence School, and two divisions.

JOINT STARS permits quick reaction battlefield management

The Joint Surveillance and Target Attack Radar System (JOINT STARS) will provide wide area surveillance of the battlefield. It will have both a moving and a fixed target capability permitting detection and location of targets such as fixed and moving vehicles, command posts, assembly areas, and low-flying helicopters and fixed-wing aircraft. JOINT STARS will broadcast simultaneously to multiple ground stations at division and corps, and will be integrated with the All-Source Analysis Center and the Advanced Field Artillery Tactical Data System to provide both battlefield management and quick- reaction, realtime targeting. Operational effectiveness will be enhanced by cueing from other sensors. In FY87 the Army will provide the initial ground station modules for fielding to Europe.

Offensive electronic warfare

Offensive electronic warfare operations are calculated to disrupt enemy command, control, and communications capa- bilities. Every unit is tied by an electronic apron string to its next higher echelon. Disrupting the Soviets' communications network by means of electronic warfare may be a key means of slowing a Warsaw Pact attack by precluding the timely massing of forces and thereby making it vulnerable to eventual defeat. The commander of a force needs to know what the enemy is doing. One way he can get this information is by intercepting and locating enemy emitters. Army systems to provide location and intercept of communications and radar emitters are mounted in aircraft and in wheeled or tracked vehicles. TRAILBLAZER and TEAMPACK systems, which are currently being fielded, are ground-based systems whose targets are, respectively, communications and radar signals. Fielded airborne systems are GUARDRAIL and QUICKLOOK which are being upgraded through product improvements.

Guardrail

Quick Look II

Guardrail V is a combined airborne sensor and ground processing facility communication intelligence system with proven ability to provide near-realtime data on the location of enemy electronic emitters. Guardrail, in the RU-21H platform, has some limitations such as an unpressurized aircraft and limited frequency coverage. Thus, we are continuing the procurement of the Improved Guardrail (RC-12D), a system that corrects those limitations.

Countering electronic emitters

Quick Fix is an airborne offensive communications intercept, location and jamming system that will deny the enemy the use of his radios during key periods of battle. It does this by intercepting and jamming enemy communications. Quick Fix is designed to operate against air defense units and maneuver units. Quick Fix I is currently employed in a modified EH-1H aircraft. Future Quick Fix II systems will be mounted in the EH-60A BlackHawk aircraft.

Jamming enemy communications

Quick Look II is an airborne, computer-controlled system mounted in a Mohawk aircraft that detects, locates, and identifies enemy radars. It provides tactical field commanders with timely data on enemy missile, artillery, and antiaircraft weapons. The FY86 budget contained limited funds for product improvements to the aircraft and includes RDTE funds to support the consolidation of Guardrail and Quicklook into a single platform. Procurement funds start in FY88.

Radar emitters

In the area of ground-based communications jammers, our Combat Electronic Warfare Intelligence (CEWI) units will be equipped with the medium-power AN/TLQ-17A, TRAFFIC JAM, and the high-power AN/MLQ-34, TACJAM. In addition, the Army is developing a family of low-power, expendable jammers that are designed for hand emplacement or delivery by artillery projectiles. Procurement of the hand-emplaced jammers began in FY84. The Army is also equipping Combat Electronic Warfare Intelligence (CEWI) units with the PIRANHA radio electronic countermeasures set, OG-181. This device allows us to use our AN/VRC-12 series tactical radios as jammers and provides an ECM training capability to both the active and reserve forces.

COMBAT SERVICE SUPPORT

In the initial stages of most potential conflicts, we can expect to fight outnumbered and outgunned. Therefore, the commander must have the ability to move forces rapidly about the battlefield in order to optimize their overall effectiveness and to avoid decisive engagements with forces having superior strength. The key to this capability is enhanced mobility, both air and ground which enables us to position our forces in the right place at the right time. The Combat Service Support major mission area is an aggregation of mission areas designed to provide the commander support to the weapons systems, support systems, and their operators and crews.

UH-1: a good, but limited performer

The Blackhawk helicopter, the high end of the high-low utility helicopter mix, will perform air assault, air resupply and aeromedical evacuation missions, and answers the Army's need for improved battlefield mobility. Its predecessor, the UH-1, is an excellent and reliable helicopter, but is power-limited so that during hot weather and in high-altitude conditions, its payload is greatly reduced. Furthermore, in Vietnam we learned that we must reduce the vulnerability of future helicopters to small arms ground fire.

UH-60 Blackhawk

Blackhawk: a versatile aircraft

The UH-60A Blackhawk is clearly superior to the UH-1. It can carry more than twice the UH-1 payload and can transport a complete, fully equipped squad faster in most weather and altitude conditions. Blackhawk also adds significantly to the mobility of the division by having the capability to reposition equipment such as the 105mm howitzer, its crew of six, and up to 30 rounds of ammunition in a single lift.

Survivable

The critical components in the Blackhawk are either armored or redundant to enable it to withstand multiple small arms hits. Tests have demonstrated its ability to continue flight for a minimum of 30 minutes after sustaining damage from projectiles as large as the 23mm high-explosive incendiary round. The airframe is designed to absorb impact forces by progressively deforming on impact, thereby protecting the crew in a crash. The Army's experience in Grenada with the Blackhawk proved the aircraft to be very survivable.

Blackhawk

The Blackhawk has been fielded in Korea, WESTCOM, Panama, Europe and FORSCOM units. Fielding to ARNG, USAR, USAREUR Medevac and FORSCOM units are in process and will be followed by a continuation of fielding to FORSCOM units.

Stabilized production rate

Successful multi-year contracting

The Blackhawk is presently being procured under a second multiyear contract (FY85-87), which has significantly stabilized the production base and produced substantial savings to the Government. FY86, the first year of the FY86-FY88 T700 series multiyear contract, included procurement of engines for the Army's UH-60 Blackhawk, AH-64 Apache, EH60 Quick Fix, Navy's SHG-60B SeaHawk and a number of other Navy programs. This highly successful program is its second multiyear contract and has resulted in significant savings to the Army. The program continues toward meeting the procurement objective of 1107 Blackhawks. The Army has accepted 700 Blackhawks as of November 1985. The Army is requesting 78 Blackhawks in FY87.

CH-47: Army's workhorse

The CH-47 Chinook is the Army's medium-lift helicopter. Designed in the 1950's and fielded in 1962, the CH-47's primary missions are movement of ammunition, repair parts, petroleum and tactical movement of artillery, troops and special weapons on the battlefield. In 1975 a modernization program was approved to upgrade the CH-47 A, B, and C models into a new D model configuration. These improvements extended the useful life of the fleet beyond the year 2000.

CH-47D Modification Program

Modernization includes new fiberglass rotor blades, transmission and drive system, modularized hydraulics, electrical systems, advanced flight controls, triple hook cargo system and an auxiliary power unit. These efforts greatly enhance reliability, maintainability, productivity, survivability and safety of the medium-lift fleet.

Initial operational capability was achieved on schedule in February 1984 at Fort Campbell, Kentucky. The benefits of this program to the operational units have been demonstrated by an average of 77 percent full mission capability rate (goal 70%) during the past year.

The FY 1987 budget will fund the seventh year of this effort and the third year of 48 aircraft-per-year multiyear procurement. This program continues to be a stable program with deliveries on schedule and on cost. By 31 January 1986 there will be 99 CH-47D aircraft in the field.

Truck Shortage

While other elements are essential to rapid resupply and mobility, tactical wheeled vehicles have been and will remain the backbone of our logistical system. They are vital to the fielding of new weapon systems and tactical operations Army-wide. We have a planned program to acquire tactical trucks over time to meet these needs; to fill shortages; and replace over-age, obsolete and less capable vehicles.

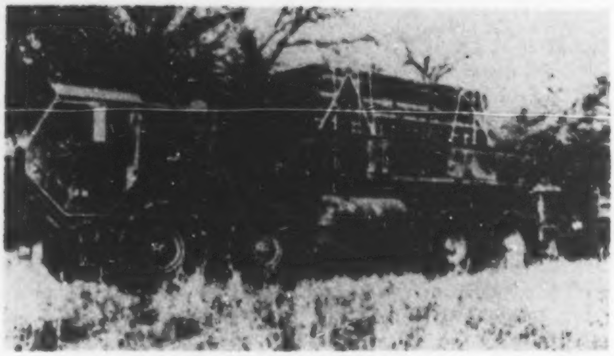
5-Ton Truck

5-Ton Trucks for new systems and to replace over-age fleet

Heading the list of workhorses is the 5-Ton Truck. It supports the introduction of such major systems as the Patriot, Pershing II, and TACFIRE, as well as meeting ammunition, general cargo transport, and other special-pur-pose needs. In FY81, a competitively awarded 5-year multi-year contract was signed with AM General Corporation for 11,394 product improved 5-Ton Trucks, with an option to increase production by 100%. To meet critical Army requirements, as well as other Services' requirements, the options have been exercised. A competitive 5 year multiyear procurement will be awarded 3QFY86. As of December 1985, over 13,500 new 5-ton trucks have been accepted by the Army. Additionally, in 1987, we will begin prototype evaluation of a Family of Medium Tactical Vehicles to replace the 2 1/2 and 5-ton fleets that will be lighter and more air transportable, mobile, and fuel efficient. We plan to begin buying this new truck in the early 1990's.

10-Ton Trucks for MLRS, GLCM, and Pershing II

The Army 10-Ton Heavy Expanded Mobility Tactical Truck (HEMTT) is a vehicle that features an assemblage of commercial components. The HEMTT meets high-priority systems requirements, such as Patriot, Multiple Launch Rocket System, and tactical unit ammunition and fuel transport requirements. A competitively awarded five-year multiyear contract was signed with Oshkosh Truck Corporation in FY81. In FY87 we will continue to acquire 1523 HEMTT vehicles from the current contractor. In addition, FY 87 will be the second year of an evaluation of a follow-on Family of Heavy Tactical Vehicles which will be a follow-on to the current 10-ton HEMTT. This family will incorporate the productivity enhancements of the self-loading/unloading capabilities of a Palletized Loading System.



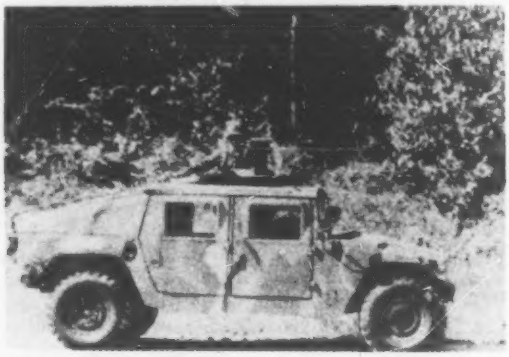
10-Ton HEMTT

Utility Vehicles needed

Heavy tactical wheeled vehicles are critical for the transport of heavy cargo, fuel, and ammunition, but light-load requirements dictate the need for utility trucks. Historically, this need was satisfied by the M880, commercial pickup truck series of vehicles and to some extent by the M151 1/4-ton with a 1/4-ton trailer and M561 Gama Goat, 5/4 ton. We are now beginning to fill this light-load or 5/4-ton payload requirement by two vehicle families. The first vehicle family is the Commercial Utility and Cargo Vehicle (CUCV), which serves the needs of the Army, Marine Corps, Air Force and Navy.

Commercially available, adapt-able vehicles

The CUCV program complies with congressional direction to commercialize at least 20 percent of the M151 1/4-ton jeep fleet. Fielding of CUCV's started in September 1983. FY85 was the last year of the 4-year multiyear procurement. Over 50,000 CUCVs have been fielded.



HMMWV

HMMWV: asset in creating lighter divisions

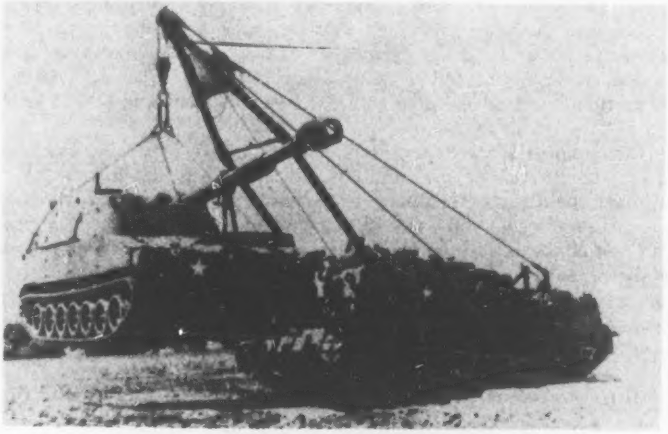
The other vehicle family in the 5/4-ton-payload category, is the High Mobility Multipurpose Wheeled Vehicle (HMMWV), which is complementary to the CUCV. The HMMWV is a 5/4-ton-payload, diesel-powered, four-wheel-drive tactical vehicle that uses a common chassis with six body configurations: TOW weapons carrier, utility, ambulance, squad carrier, shelter carrier, and Stinger weapon carrier. Emphasizing the use of commercially available components, the versatile HMMWV has excellent on-and off-road capability, with a range of 300 miles. This vehicle will replace aging and obsolete vehicles in the light tactical fleet: the M561 GAMA GOAT, the M274 MULE, and M151 1/4-ton utility vehicles not replaced by the CUCV. It will perform in command and control, utility, forward observer, forward air control, and numerous other battlefield roles. This vehicle is one of our most important assets as we move toward lighter divisions. The tri-service

HMMWV program also allows the Services to take advantage of the commercial production base. The FY87 budget includes money for 12,842 HMMWVs.

Our challenge for the future is to maintain the stability of our program funding to meet existing, critical truck needs. The introduction of the families of vehicles concept will meet these needs with the operational and logistic benefits of commonality. An additional and important consideration is the logistics standardization that occurs among all the Services as a result of multiyear buys of common-use tactical vehicles. It's good for industry and good for the Armed Services.

Armored recovery vehicle supports quantitative strength

Rounding out our combat service support transport requirement is the M88A1 recovery vehicle. The M88A1 supports the mechanized and armored combat soldier by recovering disabled tanks and other tracked combat vehicles from the battlefield.



M-88A1 Recovery Vehicle

Fielding of the M88A1 was initiated in 1977. A depot program to overhaul 863 gasoline-driven M88's and to convert them to diesel power was completed in FY82. Production of the M88A1 is scheduled to continue through FY86. The FY87 budget provides funding to develop and procure product improvements to the M88A1. These product improvements will upgrade the M88A1 to provide it with the capability to fully support the M60A3, M1, and M1A1 tank fleets.

Logistical support equipment gives our soldiers the vital support they need to fight successfully in sustained conflicts. In FY87, we will place greater emphasis on logistics research and development to enhance the operational capability, reduce the maintenance burden and extend mission reliability of our equipment. Logistics research and development and logistics support equipment requires continued support.

Now that we have reviewed the mission areas that put combat power on the battlefield and sustain it in battle, we shall turn to the mission area that is essential for orderly execution of all battlefield missions—command, control, and communications.

COMMAND, CONTROL AND COMMUNICATIONS

The command and control of our forces, and the communications which make it possible, are the keys to success on the battlefield. The C3 function is analogous to the central nervous system of the body. The weapons and support systems discussed earlier are similar to muscles which react only on command and which function effectively only when they are controlled and coordinated. The systems discussed in the C3 mission area provide the means by which we control, direct, and coordinate our forces. The importance of these systems cannot be overstated.

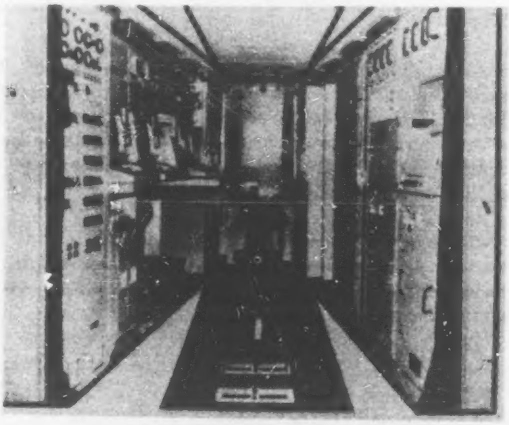
Enormous demands and challenges

The C3 mission area encompasses a staggering variety of demands and challenges. The demands range from a derivative of the Presidential "Hot Line," down to a simple squad radio capable of functioning under the rigors of combat. The challenges relate to an almost unbelievable number of conditions and complications. C3 systems are affected by natural and man-made interference and they are subject to enemy interruption, direction finding and jamming. Many C3 systems must be compatible with the sophistication of fixed site operations in peacetime and provide mobile capability during hostilities. In addition, C3 systems must usually be compatible and interoperable with our sister Services and NATO allies.

Communications technology is a field in which the US possesses a degree of expertise that is the envy of the world. Due to affordability constraints, however, the Army's C3 equipment has not kept pace with this technology advantage. The situation is getting better because of the increased emphasis on C3 at all levels and the many modernization initiatives being pursued. With your support we will close the technology gap during the decade of the 1980's and will move from an era of grease pencils and manual switchboards to one in which the readiness of the Army's C3 systems will be significantly improved by the systems we will now discuss.

TRI-TAC

The Army recently reassessed its communications architecture to insure that it was purchasing the correct mix of equipment to efficiently and effectively meet its battlefield needs. The major program included in this review was the Joint Tactical Communications (TRI-TAC) program, a Joint Service and DoD program to develop and field tactical multichannel switched communications. The broad goals of the TRI-TAC program are to achieve interoperability between Army and other DOD telecommunications systems, provide new equipment that reflects the most recent technology, eliminate duplication in development among the Services, and enhance interoperability with NATO systems.



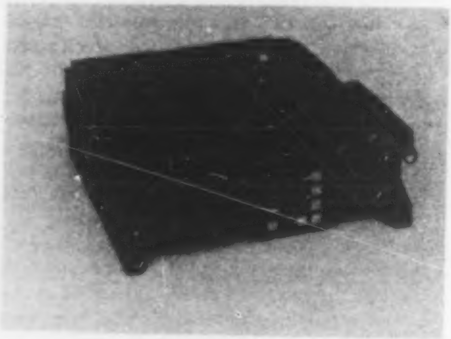
TRI-TAC

Analog to digital communications

The TRI-TAC family of equipment consists of Mobile Subscriber Equipment (MSE), automated digital telephone and message switches, secure and nonsecure telephones, multichannel radio transmission equipment, automated control facilities, tactical data and facsimile terminals, and other associated items. This equipment is urgently needed to replace the obsolete, nonsecure, manpower-intensive, manual communications equipment currently in the field.

The MSE is the most important communications system in the FY87 request; it provides corps and division commanders with the secure, flexible, mobile communications needed for command and control on the modern battlefield. This year's request procures equipment for the first operational corps and division units which will be located at Ft Hood, Texas. The MSE acquisition is an example of an innovative approach which shortens the acquisition cycle by using a nondevelopmental strategy. It is based on a willingness to take advantage of existing, proven technology and developments by our NATO allies rather than trying to develop the "ultimate" system. It enables the Army to avoid millions in development costs and start fielding a capability in 1988 rather than in the mid- 1990's.

The FY87 request provides funding for continued software development for various TRI-TAC items and the procurement of transmission equipment, unit level switches, automated control facilities, and various voice and data terminal devices together with associated communications security equipment.



SINCGARS

SINCGARS: reliable radio system for the soldier

The Army does not presently have a tactical net radio system capable of operating in an electronic countermeasure environment. The Single Channel Ground and Airborne Radio System, (SINCGARS) will give the soldier a reliable, jam-resistant, secure combat net radio system capable of operating on the move and compatible with current vehicular radios and associated communications security equipment. The FY87 budget request continues the production of this urgently needed combat radio.

PLRS

Knowing where we are—PLRS a combat necessity

Any future conflict will require combat commanders to rapidly and precisely locate and identify their own forces, as well as other friendly units, on a highly mobile and extended battlefield. The Position Location Reporting System (PLRS), a joint program with the US Marine Corps, will give us that capability. It is cryptosecure, highly resistant to jamming and can be used in all weather and terrain. In the future, PLRS will be integrated with the Joint Tactical Information Distribution System (JTIDS) terminal to form the Army Data Distribution System (ADDS). It will provide the Army with a reliable, jam resistant, data communications, navigation, and identification system for use in the five primary functional areas which require C3 on the battlefield: maneuver control, fire support, air defense, electronic warfare/intelligence, and combat service support. We consider attainment of this capability a high priority for successful combat operations. Hence, the Army and Marine Corps initiated production of PLRS under a multiyear production contract in FY83 which will result in initial system fielding of PLRS for the Army in 1987.

For the Army, the PLRS production contract establishes a production base for the follow-on ADDS system. Hence, the FY87 request also provides for continued production of ADDS through modification of PLRS production equipment and initial procurement of JTIDS. This request will result in initial system fielding of ADDS in 1988.

Maneuver Control System

The commander must be able to aggregate volumes of information emanating from many sources in the form of reports, staff estimates, plans and orders. An automated command and control (C2) system is needed to provide a comprehensive, timely picture of the battlefield to support the decision making process. The Maneuver Control System (MCS) is such a system; it is a combination of computer hardware and C2 software that gives the tactical commander quick access to near real-time battlefield information. The MCS is the maneuver and force level control system within the Army Command and Control System (ACCS). As such it will be compatible and interoperable with the other control nodes for Air Defense, Fire Support, Intelligence and Electronic Warfare, and Combat Service Support. Critical elements of information from all the ACCS nodes will be instantly available to the force commander. Once a decision is made, MCS automates the preparation and distribution of orders to subordinate units for execution. A key feature of the program is its evolutionary implementation that began with an initial maneuver control capability in Europe in FY81. Both MCS software and hardware have evolved according to pre-planned, time-phased steps, guided by field user feedback from numerous exercises in Europe. Over the next several years, MCS evolution will continue. The hardware configuration will evolve into a mix of fully militarized equipment for use in critical locations and and severely stressed environments, and nondevelopmental items (NDI) employed in less critical locations and less severe environments. The MCS will achieve initial operating capability in 4th quarter FY86.

Maneuver Control System

TACSATCOM

Tactical Satellite Communication (TACSATCOM) systems support the ground mobile forces of the Army, Navy, Air Force, and Marine Corps by providing reliable and effective communications between widely dispersed and rapidly moving forces. Each of the systems uses a communications satellite as a relay station between terminals. Terrain is therefore less of a constraint for employment of TACSATCOM systems than for regular terrestrial systems.

Ground station to brigade level and below

Presently, one multichannel system and two single-channel systems are being fielded. The single-channel systems operate in the ultra high frequency range. Production of the single-channel Special Communications System, AN/MSC-64 which provides secure command and control communications from the National Command Authority to special weapons units worldwide was completed in 1983. The FY87 requests provides for completion of a super high frequency single channel receiver upgrade to improve the system survivability. Deliveries of a UHF manpack began in January 1984. The FY87 request will continue procurement of UHF manpack satellite terminals for use by Special Forces and Rangers. The Multichannel Initial System, AN/TSC-93A and AN/TSC-85A, provides tactical satellite communications down to brigade level. Production deliveries of these terminals commenced in FY85. Production of our anti-jam control modem to provide ECCM protection for this multichannel system also began in FY85.

SCOTT meets electronic warfare threat

To meet the severe Electronic Warfare (EW) threat and potential nuclear warfare environment of the future, a single-channel Extremely High Frequency (EHF) system will be fielded. The Single Channel Objective Tactical Terminal (SCOTT) system will provide such a jam-resistant, survivable satellite communication link. Advanced development was completed in 1983. SCOTT is the Army and other services ground terminal in the MILSTAR Satellite Communications System. During FY85, the Scott program was restructured to complete engineering development with the goal of minimizing cost, schedule and technical risks. The FY87 request continues this development.

DSCS

The Defense Satellite Communications System (DSCS) is a worldwide military satellite communications system which supports the Worldwide Military Command and Control System (WWMCCS), the Diplomatic Telecommunications System, and tactical/strategic C3I requirements of the Military Departments. It is the only capability in existence to satisfy strategically critical wideband command, control, and intelligence communications.

The DSCS is a joint program with the Air Force responsible for the space segment and the Army for the ground subsystem. In the past few years, the Army has initiated upgrade and modernization efforts that will result in the development, procurement, and worldwide installation of a new generation of large, medium, and small satellite terminals. These terminals will be equipped with digital communications and antijam equipment. A new automated system that will control the DSCS satellites communications payload in orbit, as well as communications that pass through the satellite, is being developed. The FY87 request supports these modernization and survivability programs.

NAVSTAR GPS: a common reference system for all services worldwide

The NAVSTAR Global Positioning System (GPS) is a satellite-based radio position navigation system that provides users with rapid data about position, velocity, and time. When fully deployed, the system will consist of 18 satellites and thousands of user terminals.

The GPS employment includes units that normally operate at great distances from their home bases, such as cavalry, pathfinders, and Special Forces, as well as selected users to include all Army aircraft throughout the theater Army. It will also serve as an "initializer" for other position/navigation systems.

The joint GPS Program Office is staffed by Army, Navy, Air Force and NATO personnel, with the Air Force as lead. The Army is participating in the joint development of a family of manpack, vehicular, and aircraft user terminals. Testing of the first Army user terminals began in 1984.

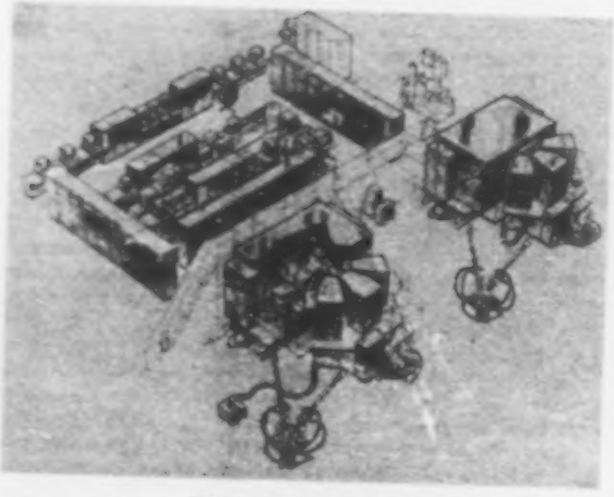
TRAINING SIMULATORS

The FY87 request reflects the Army's commitment to the increased use of simulators. We are aware that a future Army, with all the new weapon systems we are developing, cannot train to fight on the next battlefield without them.

While training with real equipment gives soldiers and their leaders confidence that it will work in combat, training with simulators allows soldiers to repetitively practice techniques which, if performed on the actual equipment or with live ammunition, would be too hazardous, too time-consuming, or too expensive. These training devices are used in conjunction with the actual systems to provide the Army with the capability to maintain and improve the combat readiness of soldiers, crews and weapon systems, to reduce training and operating costs, to conserve scarce resources such as fuel, weapons, and ammunition, and to teach skills not attainable with operational equipment (i.e., maneuver and shoot without being killed). Training technology, much of which employs video disc, computer generated imagery, or lasers, is a US strength which is being exploited to ensure that American soldiers and their leaders can shoot, operate and maintain their new equipment as close as possible to its capabilities.

Training devices and training simulation produce force multipliers that enhance combat effectiveness at a lower cost. The combat effectiveness of Army personnel is key to both compensating for the numerical superiority of opposing forces and for maintaining a ready force. This combat effectiveness can best be achieved by innovative, efficient, and results-oriented training. The major thrust in the development of new training devices is to develop equipment that allows a high transfer of knowledge and experience from the training situation.

The Army's past investments in research and development of training devices are now paying off as numerous devices enter or continue into production and deployment. Among these devices are the Remoted Target System, which is the target mechanism component of the Army's Range Modernization Program; the Army Training Battle Simulation System, which is a computer driven war game for combined arms operations training of battalion level commanders and staffs; the Unit Conduct of Fire Trainer, which is a gunnery trainer for Abrams Tank and Bradley Fighting Vehicle crewmembers; the Multiple Integrated Laser Engagement System (MILES), which is a family of eye-safe laser devices that are attached to weapons to realistically simulate the firing capabilities of rifles, machine guns, and other direct fire weapons. The MILES will instantly simulate the casualty producing effects of direct fire weapons providing a capability to conduct force-on-force tactical engagement simulation field exercises with enhanced realism and feedback to teach lessons heretofore learned only in actual combat. Other simulators just as important to train soldiers are the Air Ground Engagement System, which is MILES for aircraft and air defense weapon systems, and Flight Simulators, such as the Combat Mission Simulator for the AH-64.



Flight Simulator Complex

This budget reflects the Army's commitment to provide realistic tactical engagement training to the combined arms by funding efforts to simulate indirect fire and expand MILES use to more types of weapon systems. Fielding MILES for ground direct fire, aircraft, and air defense weapon systems has provided unparalleled opportunities for realistic, two-sided, tactical training worldwide. We have included money in FY87 to provide the National Guard with additional sets of MILES.

Also included in this budget are efforts to achieve long-term economies and to improve the maintenance of proficiency through the use of microprocessors and lasers to provide precision simulation in lieu of live fire. The Army has a continuing need to expand the technology base for training devices and simulation to support the development of training environments and training systems that provide the training required to win in any conflict.

FY87 RDT&E PROGRAMS

PROGRAM ELEMENT NUMBER	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	TECHNOLOGY BASE				
61101A	IN-HOUSE LAB INDEPENDENT RESEARCH	24.322	25.105	19.020	20.277
61102A	DEFENSE RESEARCH SCIENCES	208.349	233.544	212.594	219.548
61103A	UNIVERSITY RESEARCH INITIATIVES		6.052	12.380	24.606
62105A	MATERIALS	12.715	12.481	16.346	18.920
62111A	ATMOSPHERIC INVESTIGATIONS	5.575	5.498	11.563	13.686
62120A	NUCLEAR WEAPONS EFFECTS/FLUIDICS	12.476	22.488	47.797	54.152
62122A	SURVIVABILITY ENHANCEMENT				
62201A	AIRCRAFT WEAPONS TECHNOLOGY	3.594	3.307	1.416	1.724
62202A	AIRCRAFT AVIONICS TECHNOLGY	7.998	9.083	11.102	12.083
62209A	AERONAUTICAL TECHNOLGY	23.713	27.451	34.814	43.629
62210A	AIRDROP TECHNOLGY	1.749	2.053	2.900	3.094
62303A	MISSLE TECHNOLGY	35.027	28.649	24.587	30.530
62307A	LASER WEAPON TECHNOLOGY	22.007	11.133	11.228	14.195
62601A	TANK AND AUTOMOTIVE TECHNOLOGY	24.547	22.128	25.711	29.452
62603A	LARGE CALIBER AND NUCLEAR TECHNOLOGY	37.127	22.442		
62617A	SMALL CAL AND FIRE CONTROL TECHNOLOGY	9.691	11.561		
62618A	BALLISTICS TECHNOLOGY	49.862	43.413	46.155	48.288
62622A	CHEMICAL AND SMOKE MUNITIONS	15.909	14.083	23.228	26.242
62623A	JOINT SERVICE SMALL ARMS PROGRAM	6.537	5.493	11.119	11.163
62624A	WEAPONS AND MUNITIONS TECHNOLOGY			28.663	27.235
62701A	TACTICAL TELEPROCESSING TECHNOLOGY	15.020	17.213	26.894	29.260
62703A	COMBAT SURVEILL TARGET ACQUIS &IDENT	6.759	4.516	7.766	8.021
62704A	MIL ENVIRONMENTAL CRITERIA DEV	2.900	3.067	3.413	3.932
62705A	ELECTRONICS AND ELECTRONIC DEVICES	20.056	21.558	24.039	26.414
62706A	CHEM BIOLOGICAL DEF/GEN INVEST	36.852	39.568	39.656	44.310
62707A	MAPPING - GOEDESY	7.994	9.000	9.678	10.815
62709A	NIGHT VISION INVESTIGATIONS	18.007	20.840	28.056	29.890
62715A	TACTICAL ELECTRONIC WARFARE TECHNOLOGY	10.290			
62716A	HUMAN FACTORS ENG SYS DEV	10.987	13.993	17.811	20.127
62717A	HUMAN PERFORMANCE EFFECT/SIMULATION	5.156	5.228	13.113	14.760
62719A	MOBILITY AND WEAPONS EFFECTS TECHNOLOGY	9.217	12.265	14.879	15.929
62720A	ENVIRONMENTAL QUALITY HEALTH	11.043	8.930	8.760	9.213
62722A	MANPOWER/PERSONNEL/TRAINING	6.732	7.533	4.730	4.703
62723A	CLOTHING EQUIP AND SHELTER TECHNOLOGY	7.932	8.996	18.012	17.059
62724A	JT SVC FOOD SYS TECH	5.943	5.960	5.162	5.915
62725A	COMPUTER AND INFORMATION SCIENCE	2.207	2.198	2.574	2.581
62727A	NON-SYSTEM TRAINING DEVICES	5.180	5.042	4.397	6.874
62730A	COLD REGIONS ENGINEERING TECHNOLOGY	7.423	6.990	4.308	5.025
62731A	MILITARY FACILITIES ENGINEERING TECH	5.347	5.345	5.764	6.208
62733A	MOBILITY EQUIPMENT TECHNOLOGY	13.365	13.708	15.914	17.848
62734A	MED DEFENSE AGAINST CHEM AGENTS	33.265	31.101	34.613	39.889
62746A	TACTICAL SOFTWARE TECHNOLOGY		6.433	10.794	15.331
62770A	MILITARY DISEASE HAZARDS TECH	23.949	27.372	48.677	51.489
62772A	COMBAT CASUALTY CARE TECH	9.610	8.913	10.376	10.439
62775A	COMBAT MAXILLOFACIAL INJURY	3.610	2.166	2.813	3.714
62777A	SYSTEMS HEALTH HAZARD PREVENT TECH	22.114	19.428	22.223	23.130
62781A	ENERGY TECH APPL FOR MILITARY FAC TECH	2.128	2.259	2.035	2.295
	TECHNOLOGY BASE TOTAL	804.274	831.197	945.917	1045.085
	ADVANCED TECHNOLOGY DEVELOPMENT				
63102A	MATERIELS AND STRUCTURES	8.214	14.289	20.154	17.772
63104A	FUELS AND LUBRICANTS	4.479	3.358	3.527	4.186
63105A	ACQUIRED IMMUNE DEFICIENCY RESEARCH		39.516		
63201A	AIRCRAFT POWER PLANTS AND PROPULSION	20.240	19.602	20.365	26.145
63206A	AIRCRAFT WEAPONS	11.857	6.877	10.349	10.257
63207A	AIRCRAFT AVIONICS EQUIPMENT	20.250	10.838	4.408	8.754
63209A	AIR MOBILITY SUPPORT	7.782			
63211A	ROTARY WING CONTROLS/ROTORS/STRUCTURES	19.981	16.979	23.560	27.065
63216A	SYNTHETIC FLIGHT SIMULATOR DEVELOPMENT	9.189	12.462	11.162	11.581
63218A	AIRDROP ADVANCEMENT	3.575	3.819	4.547	3.628
63221A	NOE AVIATION AND NAVIGATION EQUIP	2.900	3.052	2.370	5.019
63255A	OPERATIONAL ENHANCEMENTS			2.637	4.370
63306A	TERMINALLY GUIDED PROJECTILES	7.484	14.394	27.939	50.690
63313A	MSL/ROCKET COMPONENTS	25.483	18.685	37.881	33.647
63322A	BATTLEFIELD ENVIRONMENT SIMULATION		988	7.083	8.508
63324A	ARMY DEVELOPMENT AND EQUIP ACTIVITY	38.900	9.588	11.411	15.393
63602A	ADVANCED LAND MOB SYSTEMS CONCEPTS	13.152	16.286	10.890	19.886
63606A	LANDMINE WARFARE/BARRIER DEV	13.222	11.184	11.344	13.353
63607A	JOINT SERVICE SMALL ARMS PROGRAM	6.874	3.474	9.480	7.029
63621A	COMBAT VEHICLE PROPULSION SYS	15.244	11.864	9.766	13.791

PROGRAM ELEMENT NUMBER	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
63631A	CMBT VEH TERRET AND CHASSIS SUBSYS	20.921	16.912	18.895	22.997
63636A	COMBAT VEHICLE ARMOR/ANTI-ARMOR	52.837	11.241	9.411	11.229
63637A	ADV PROPULSION/LAUNCH SYS FOR MUN	7.902	8.134	5.887	9.831
63638A	NUCLEAR VULNERABILITY ADV TECHNOLOGY			6.614	6.451
63640A	AMMUNITION LOGISTICS		1.482	2.170	5.415
63710A	NIGHT VISION ADVANCED DEVELOPMENT	30.511	31.495	29.080	36.813
63719A	SPECIAL PURPOSE DETECTORS			2.961	3.939
63723A	TACTICAL C4 TECHNOLOGY INTEGRATION		24.357	13.335	14.567
63725A	REMOTELY PILOTED VEHICLES/DRONES	13.408			
63727A	SPACE TECHNOLOGY INTEGRATION			987	985
63731A	MANPOWER AND PERSONNEL	11.349	13.882	14.204	16.323
63734A	ENGINEERING SYSTEMS	1.271	1.927	5.393	6.450
63736A	HUMAN FACTORS ENGINEERING APPLICATIONS			2.458	2.974
63737A	ANTI-RADIATION MSL COUNTER MEASURES	4.441	4.890		
63739A	HUMAN FACTORS IN TNG/OPER EFFECT	9.684	8.974	9.191	10.377
63742A	ADV ELECTRONIC DEVICES DEV	8.748	9.635	5.537	5.141
63743A	EDUCATION AND TRAINING	10.075	11.787	7.033	9.028
63744A	TRAINING AND SIMULATION	7.600	5.459	6.618	7.667
63748A	TEST MEASUREMENT AND DIAGNOSTIC EQUIP DEV	4.918	5.159	7.174	8.902
63749A	TECHNICAL VULNERABILITY REDUCTION	9.103	4.299	3.300	3.718
63752A	DEMILITARIZATION CONCEPTS	8.312	9.463		
63756A	DOD SOFTWARE INITIATIVES (STARS)	12.552	41.492		
63758A	ARMY BATTLEFIELD TECHNOLOGY INTEGRATION		11.856	12.385	12.715
63759A	CB DEF/SMK ADV TECHNOLOGY DEMONSTRATIONS	5.177	3.009	7.484	3.564
63761A	ELEC WRFR VULN/SUSCEP TECH SUPPORT	15.845	14.612		
63762A	EW FEASIBILITY DEVELOPMENT	9.652	7.157		
63763A	NONSYSTEMS MEDICAL MATERIAL DEVELOPMENT	14.644	16.026	19.492	23.077
63764A	MEDICAL CHEMICAL DEFENSE LIFE SUPPORT	33.897	22.353	17.390	17.040
63771A	ADVANCED TACTICAL COMMUNICATIONS TECH			1.461	1.502
63772A	ADV TACTICAL COMPUTER SCIENCE & TECH			13.674	12.288
63773A	BATTLEFIELD SUSTAINMENT			3.342	4.906
	ADVANCED TECHNOLOGY DEVELOPMENT TOTAL	521.673	502.856	488.034	570.433
	STRATEGIC PROGRAMS				
12814A	SPECIAL PROGRAMS				
12821A	CLASSIFIED PROGRAMS				
33152A	WORLDWIDE MILITARY CMD/CNT INF SYS	27.074	30.540	29.557	74.714
	STRATEGIC PROGRAMS TOTAL	220.502	226.877	278.987	318.447
	TACTICAL PROGRAMS				
63209A	AIR MOBILITY SUPPORT		8.281	10.848	5.528
63215A	JOINT SURVIVABILITY INVESTIGATIONS	985	890	735	1.045
63217A	GREATER SLOPE	33.998			
63220A	ADV ROTORCRAFT TECH INTEGRATION/LHX	51.575	44.311	44.420	
63225A	AIRDROP EQUIPMENT SYSTEMS		988	1.256	1.929
63302A	ANTI-TACTICAL MISSLE SYSTEM	29.275	61.315	38.635	4.830
63303A	SURF-TO-SURF MSL ROCKET SYS	24.509	30.253	42.681	52.185
63323A	LIGHT WEIGHT AIR DEFENSE SYSTEM			21.717	38.016
63604A	NUCLEAR MUNITIONS AND RADIACS	5.226	7.833		
63608A	WEAPONS AND AMMUNITION		789	173	
63612A	ADV ANTI-TANK WEAPON SYSTEM (MEDIUM)	6.003	60.338	48.735	141.820
63615A	LETHAL CHEMICAL MUNITIONS CONCEPTS	14.975	20.141	25.307	15.660
63619A	LANDMINE/BARRIER SYSTEM	15.683	22.777	10.477	8.828
63627A	SMOKE MUNITIONS AND MATERIEL CONCEPTS	3.409	8.497	3.189	7.709
63628A	ARTILLERY/MORTAR AMMO DEVELOPMENT	9.169	10.151	17.210	12.841
63633A	TANK/FIGHTING VEHICLE AMMO DEVELOPMENT	10.408	5.665		
63635A	MOBILE PROTECTED GUN				16.824
63639A	ARMAMENT ENHANCEMENT INITIATIVE (AEI)				
63641A	PROGRAM 292				
63702A	ELECTRIC POWER SOURCES	5.537	11.154	8.017	15.109
63705A	PHYSICAL SECURITY	1.800	4.397	2.339	3.274
63706A	IDENT FRIEND OR FOE DEVELOPMENT	13.670	18.479	20.373	5.678
63707A	COMMUNICATIONS DEVELOPMENT	4.965	2,905	2.673	3.652
63711A	AIRCRAFT SURVIVABILITY EQUIPMENT	3.090	8.128	4.588	18.170
63713A	ARMY DATA DISTRIBUTION SYSTEM	23.949	37.266	42.122	22.605
63718A	ELECT WRFR VULNERABILITY/SUCEPTIBILITY	26.465	22.633	16.912	22.124
63720A	CHEM/BIO DETECTION WARM/SAMP MAT CONCEPTS	35.235	15.008		16.019
63721A	CHEM/BIO PROTECTIVE MATERIEL CONCEPTS	3.759	9.378	8.045	4.058

PROGRAM ELEMENT NUMBER	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
63723A	MISSION CRITICAL SOFTWARE	16.601			
63725A	REMOTELY PILOTED VEHICLES/DRONES		259	4.917	19.973
63726A	COMBAT SUPPORT EQUIPMENT	15.011	25.148	24.285	14.180
63730A	TACTICAL SURVEILLANCE SYSTEM		21.411		
63732A	COMBAT MEDICAL MATERIAL	6.336	9.271	8.189	11.396
63740A	SHORT RANGE AIR DEF COMMAND AND CONTROL		10.000	16.189	15.265
63741A	METEOROLOGIC EQUIPMENT DEVELOPMENT				2.192
63745A	TACTICAL ELECTRONIC SPT MEASURE SYS	5.083	4.807		
63746A	SINGLE CHAN GND & ABN RADIO SYS AD	3.519	2.240		
63747A	SOLDIER SUPPORT/SURVIVABILITY	3.428	4.992	4.722	6.196
63750A	DRUG AND VACCINE DEVELOPMENT	14.721	16.745	17.077	16.474
63751A	MEDICAL DEFENSE AGAINST CHEM WARFARE	21.820	30.652	26.449	29.502
63754A	CLASSIFIED PROGRAM (ADV)				
63755A	TACTICAL ELECTRONIC COUNTERMEASURES SYS	44.957	78.091		
63757A	AIR DEFENSE ALTERNATIVES		30.504	103.944	188.995
63766A	TACTICAL ELECTRONIC SURVEILLANCE SYS	9.239	6.735		
63767A	COMBAT SERVICE SUPPORT CONTROL SYS	190	969	4.608	5.318
63774A	NIGHT VISION SYSTEMS ADVANCED DEVELOPMENT			3.307	10.045
64202A	AIRCRAFT WEAPONS	6.349	12.527		
64204A	AIR MOBILITY SUPPORT EQUIPMENT	5.126	2.583	4.418	4.832
64206A	UH-60 BLACKHAWK		16.759		
64207A	ADVANCED ATTACK HELICOPTER	27.682	9.921	12.931	6.083
64216A	AIRCRAFT PROPULSION SYSTEMS	19.975	69.934	111.301	149.672
64217A	SYNTHETIC FLIGHT TRAINING SYSTEMS	17.242	7.673	10.680	9.843
64218A	AIRDROP EQUIPMENT DEVELOPMENT	4.036	3.113	3.281	3.848
64220A	ARMY HELICOPTER IMPROVEMENT PROGRAM	25.199	6.720		
64223A	ADVANCED TECH LIGHT HELO SERIES				194.445
64268A	AIRCRAFT ENGINE COMPONENT IMPROVEMENT	11.046	15.963		
64306A	STINGER	5.000	23.298	6.252	
64307A	PATRIOT AIR DEFENSE MISSLE SYS	61.072	50.832		
64310A	HELIBORNE MISSLE-HELLFIRE	454	4.945		
64313A	GRASS BLADE	15.646	10.747	6.698	13.278
64314A	MULTIPLE LAUNCH ROCKET SYSTEM	1.851			
64321A	JOINT TACTICAL FUSION PROGRAM	76.880	155.209		
64324A	JOINT TACTICAL MISSLE SYSTEM-ARMY	76.378	128.426	88.197	97.719
64601A	INFANTRY SUPPORT WEAPONS	27.202	29.113	26.044	5.773
64603A	NUCLEAR MUNITIONS	11.985	18.074		
64604A	MOBILITY		988	47.828	38.265
64608A	INFANTRY WEAPONS AND AMMUNITION				2.237
64609A	SMOKE MUNITIONS AND MATERIEL	4.016	5.879	7.892	15.162
64610A	LETHAL CHEMICAL MUNITIONS				20.879
64612A	COUNTERMINES AND BARRIERS	2.607	7.929	9.728	16.037
64616A	FIGHTING VEHICLE SYSTEM	11.209			
64619A	LANDMINE WARFARE	8.176	7.818	16.755	11.813
64630A	M1A1 DEVELOPMENT PROGRAM	56.803	18.717	3.798	
64631A	FIELD ARTILLERY AMMUNITION	7.967	27.442	107.275	84.479
64632A	105MM TANK AMMUNITION	146	1.574		
64633A	CACTUS PLANT				
64701A	COMM ENGINEERING DEV	7.801	10.602	6.473	6.296
64702A	JT TACTICAL INFORMATION DIST SYS	22.764	12.105		
64704A	UNATTENDED GROUND SENSORS		494		
64705A	MODULAR INTEGRATED COMM AND NAV SYS	8.282	4.957	8.224	
64706A	RADIOLOGICAL DEFENSE EQUIPMENT	840	656		1.587
64709A	IDENTIFICATION FRIEND OR FOE EQUIP DEV	1.255		9.871	18.976
64710A	NIGHT VISION DEVICES	8.072	14.456	21.944	29.998
64711A	AIRCRAFT SURVIVABILITY EQUIPMENT	14.043	21.662	19.934	17.743
64712A	ARMY COMMAND AND CONTROL SYS ENG	11.858	9.247	6.113	11.058
64713A	COMBAT FEEDING, CLOTHING AND EQUIPMENT	6.174	3.986	4.363	5.423
64714A	TACTICAL ELECTRICAL POWER SOURCES	9.520	10.043	6.449	3.675
64717A	GENERAL COMBAT SUPPORT	17.644	14.225	11.538	23.905
64718A	PHYSICAL SECURITY	6.141	6.450	1.216	4.384
64722A	EDUCATION AND TRAINING	6.899	6.531	4.378	7.273
64723A	SPECIAL PURPOSE DETECTORS	3.315	3.217	1.181	961
64724A	CML/BIO DETECTION WARNING & TRAINING MAT	1.801	22.845	31.427	21.038
64725A	CHEM BIO PROTECTIVE MATERIEL	17.932	15.524	10.550	27.631
64727A	COMMAND AND CONTROL	16.166	5.757	548	550
64730A	REMOTELY PILOTED VEHICLES	97.783	73.868	91.880	19.376
64735A	INFRARED TERMINALLY GUIDED SUBMUNITION			27.114	29.546
64740A	TACTICAL SURVEILLANCE SYSTEM	16.494	17.703		
64741A	DIVISION AIR DEFENSE COMMAND AND CONTROL	18.399	32.640	82.065	116.214
64746A	AUTOMATIC TEST EQUIPMENT DEVELOPMENT	7.923	17.915	12.325	13.589

PROGRAM ELEMENT NUMBER	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
64750A	TACTICAL ELECTRONIC COUNTERMEASURES SYS	10.487	34.706		
64751A	SINGLE CHAN GND & ABN RADIO SYS ED	7.013	12.735	13.922	6.709
64754A	CLASSIFIED PROGRAM (ENG)				
64757A	MEDICAL CHEMICAL DEFENSE LIFE SPT MAT	3.485	7.587	9.204	11.756
64758A	DRUG AND VACCINE DEVELOPMENT	8.988	10.371	10.563	10.845
64766A	TACTICAL ELECTRONIC SURVEILLANCE SYS	18.121	11.134		
64770A	JOINT SURVEILLANCE/TARGET ATTACK RADAR	50.000	43.288	27.882	6.197
64779A	JT INTEROP OF TAC CMD & CONT SYS	37.238	6.337	7.719	8.485
65710A	JT CB POINT OF CONTACT, TEST & ASSESM'T	2.345	2.373	6.249	6.541
23724A	HV ANTI-TANK ASSAULT WPN SYS (TOW)	11.873	11.693	12.468	18.938
23726A	ADV FIELD ARTILLERY TACTICAL DATA SYS	29.242	19.765	40.444	67.205
23727A	MED ANTI-TANK ASSAULT WEAPON - DRAGON		2.470		
23730A	CHAPARRAL	17.911	17.452	5.627	
23731A	SAM HAWK/HAWK IMP PROG	21.497	5.149	10.633	15.902
23735A	COMBAT VEHICLE IMPROVEMENT PROGRAM	120.110	72.234	79.203	67.855
23739A	AN/TSQ-73 MODIFICATIONS			9.671	13.887
23740A	MANEUVER CONTROL SYSTEM	21.869	8.565	9.401	14.901
23741A	PROD IMPR VULCAN AIR DEF SYS	142			
23743A	155MM	27.712	25.474	35.726	50.164
23744A	AIRCRAFT MODIFICATIONS	6.200			
23745A	EQUIPMENT UPGRADE	5.318	25.036	23.343	6.462
23746A	PATRIOT PRODUCT IMPROVEMENT PROGRAM			40.221	50.248
23747A	HELLFIRE PRODUCT IMPROVEMENT PROGRAM			11.947	25.301
23749A	MLRS PRODUCT IMPROVEMENT PROGRAM				650
23751A	SPECIAL OPERATIONS FORCES EQUIPMENT			31.242	59.644
23752A	AIRCRAFT ENGINE COMPONENT IMPROVEMENT			14.592	15.977
28010A	JOINT TACTICAL COMMO PROGRAM (TRITAC)	40.324	30.233	17.401	20.189
33145A	EUCOM C3 SYSTEMS	5.501	1.938	1.078	1.316
	TACTICAL PROGRAMS TOTAL	1,726.341	2,083.622	2,440.170	2,940.527
	INTELLIGENCE AND COMMUNICATIONS				
63712A	MAPING AND GEODESY	3.532	3.186		
64201A	AIRCRAFT AVIONICS	1.246	2.212	2.493	2.482
64716A	MAPPING AND GEODESY	3.863	2.227	11.473	9.122
64778A	NAVSTAR GLOBAL POS SYS (USER EQ)	13.631	11.146	4.719	6.700
31307A	FOREIGN SCIENCE AND TECH CENTER				
31318A	HUMINT (CONTROLLED)				
31327A	TECHNICAL RECONNAISSANCE AND SURVEILLANCE				
31329A	EUCOM C3IC DESIGN				
31359A	SPECIAL ARMY PROGRAMS				
33111A	STRATEGIC ARMY COMMUNICATIONS (STARCOM)	1.062			
33126A	LONG-HAUL COMMUNICATIONS (DCS)	5.542	4.260	2.684	2.531
33142A	SATCOM GROUND ENVIRONMENT	15.076	58.932	94.478	104.673
33401A	COMMUNICATIONS SECURITY (COMSEC)	11.398	8.993	7.280	9.187
	INTELLIGENCE AND COMMUNICATIONS TOTAL	61.086	97.770	130.420	141.690
	DEFENSEWIDE MISSION SUPPORT				
63315A	TARGET MISSLES	1.496	3.952	9.731	12.924
63738A	NONSYSTEMS TRAINING DEVICES (NSTD) DEV	500	4.842	3.869	4.826
63790A	NATO RESEARCH AND DEVELOPMENT		24.698	49.356	
64715A	NONSYSTEMS TRAINING DEVICES ENGR	32.922	47.122	46.260	32.062
64726A	METEOROLOGICAL EQUIPMENT AND SYSTEMS	12.319	4.967	1.207	1.367
65201A	AVIATION ENGINEERING FLIGHT ACTIVITY	10.100	9.708	13.217	13.669
65301A	KWAJALEIN MISSLE RANGE	166.265	152.300	163.470	175.793
65502A	SML BUSINESS INNOVATIVE RESEARCH	16.323			
65702A	SUPPORT OF DEVELOPMENTAL TESTING	48.493	56.404	50.444	59.969
65706A	MATERIEL SYSTEMS ANALYSIS	15.746	16.043	16.966	17.932
65709A	EXPLOITATION OF FOREIGN ITEMS	3.443	3.535	3.984	4.468
65712A	SUPPORT OF OPERATIONAL TESTING	54.295	51.937	55.745	64.739
65716A	THREAT SIMULATORS FOR TESTING		32.601	34.279	33.906
65717A	NUCLEAR SURVIVABILITY TESTING & ANALYSIS			3.950	5.553
65801A	PROGRAM WIDE ACTIVITIES	92.133	171.766	85.484	93.979
65802A	INTL COOPERATIVE RESEARCH AND DEV	611	936	977	1.284
65803A	TECHNICAL INFO ACTIVITIES	5.750	6.196	6.772	7.875
65804A	AMC MAJOR RANGES AND TEST FACILITIES	324.825	357.120	207.799	230.412
65805A	MUN STANDARDIZAT'N EFFECTIVENESS & SAFTEY	7.145	11.367	11.610	11.609

PROGRAM ELEMENT NUMBER	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
65806A	DOD HIGH ENERGY LASER SYSTEMS TEST FAC	32.811	19.940	20.729	21.471
65810A	RDTE SUPPORT FOR NON-DEVELOPMENTAL ITEMS			9.194	13.170
65872A	PRODUCTIVITY INVESTMENTS	11.855	20.747	53.893	15.548
65894A	REAL PROPERTY MAINTENANCE (RDT&E)			174.536	214.054
65896A	BASE OPERATIONS (RDT&E)			202.951	211.115
65898A	MGT HQ (RESEARCH/DEVELOPMENT)	41.921	12.018	11.244	11.582
78011A	INDUSTRIAL PREPAREDNESS	92.356	90.951	29.105	30.145
	DEFENSEWIDE MISSION SUPPORT TOTAL	971.309	1,099.150	1,266.772	1,289.452
TOTAL RESEARCH DEVELOPMENT TEST & EVAL, ARMY		4,305.185	4,841.472	5,550.300	6,305.634

FY87 AIRCRAFT PROCUREMENT, ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	FIXED WING				
A02700	C-12 CARGO AIRPLANE	24.0	12.0		
A02000	GUARDRAIL/COMMON SENSOR ROLL				3.3
A02005	RC-12D RECON AIRPLANE	89.3			72.1
	FIXED WING TOTAL	113.3	12.0	0.0	75.4
	ROTARY				
A03400	CH-47 CARGO HELICOPTER (CHINOOK)	110.0			
A04300	EH-60A HELICOPTER (QUICKFIX)	97.6	104.6	135.0	
A04300	EH-60A HELICOPTER (QUICKFIX) ADV PROC	30.4	24.4	16.9	
A06605	AH-64 ATTACK HELICOPTER (APACHE)	1159.2	1087.8	1189.3	
A06605	AH-64 ATTACK HELICOPTER (APACHE) ADV PROC	87.6	55.3	39.1	
A05002	UH-60A BLACK HAWK (MYP)	271.0	210.9	155.4	336.6
A05002	UH-60A BLACK HAWK (MYP) ADV PROC	171.8	199.0	195.0	191.4
	ROTARY TOTAL	1927.6	1682.0	1730.7	1419.1
	MODIFICATIONS				
AZ3530	OV-1 MOHAWK SURVEILLANCE AIRPLANE	24.9	22.7	24.9	39.3
AZ2000	RC12-D RECON AIRPLANE	6.2			
AZ2100	RV-1 RECON AIRPLANE	4.7		2.7	5.4
AA0150	AH1S ATTACK HELICOPTER (COBRA-TOW)	70.3	128.9	61.0	81.0
AA6605	AH-64 MODS			33.4	33.0
AA0250	CH-47 CARGO HELICOPTER (MYP)	231.5	219.0	208.4	173.9
AA0250	CH-47 CARGO HELICOPTER (MYP) ADV PROC	159.9	124.8	58.6	69.2
AA0300	CH-54 CARGO HELICOPTER (TARHE)		.5	1.3	10.3
AZ1200	EH-1 ELECTRONIC HELICOPTER (Q-FIX MOD)	3.7			
AA0400	OH-58 OBSERVATION HELICOPTER (KIOWA)	48.8			
AA0600	UH-1 UTILITY HELICOPTER (IROQUOIS)	6.5	11.7	6.3	18.8
AA0490	UH-60 BLACKHAWK MODS	15.8	13.6	7.7	18.8
AZ2200	ARMY HELO IMPROVEMENT PROGRAM (AHIP)	161.0	166.6	164.9	113.2
AZ2200	ARMY HELO IMPROVEMENT PROGRAM ADV PROC	47.2	20.9	45.4	129.1
AZ3900	AIR TO AIR STINGER ACFT MOD			28.8	41.5
AA0700	AIRBORNE AVIONICS	9.5	1.0	.1	1.9
AA0720	ASE MODIFICATIONS CLOSE COMBAT			3.5	.1
AA0725	MODIFICATIONS UNDER $2.0M (AIRCRAFT)	1.1	.1	.1	2.6
AZ3405	ACFT WW	66.9	16.3	12.0	24.4
Z3407	SOF AIRCRAFT MODIFICATIONS			3.5	67.0
	MODIFICATIONS TOTAL	857.9	726.1	662.6	829.5
	SPARES AND REPAIR PARTS				
AA0950	SPARE PARTS	677.7	814.3	710.5	786.9
	SPARE PARTS TOTAL	677.7	814.3	710.5	786.9
	GROUND SUPPORT AVIONICS				
AZ3504	AIRCRAFT SURVIVABILITY EQUIPMENT			11.6	88.5
	GROUND SUPPORT AVIONICS TOTAL	0.0	0.0	11.6	88.5

FY87 AIRCRAFT PROCUREMENT, ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	OTHER SUPPORT				
AZ3000	AVIONICS SUPPORT EQUIPMENT	53.7	65.0	57.9	80.4
BA9999	HELIBORNE C2 CONSOLE				2.3
AZ3020	MLS AVIONICS				7.6
AZ3100	COMMON GROUND EQUIPMENT	15.6	33.5	28.4	29.7
AA0050	AIR TRAFFIC CONTROL	8.9	9.0	4.8	2.9
AZ3800	SYNTHETIC FLIGHT TRAINING SYSTEMS	156.3	117.1	37.7	61.5
AZ3300	INDUSTRIAL FACILITIES	39.2	59.3	16.0	22.8
A50100	WAR CONSUMABLES	3.6	5.9	4.5	4.2
	OTHER SUPPORT TOTAL	277.4	289.8	149.3	211.4
	ARMY AIRCRAFT APPROPRIATION TOTAL	3853.8	3524.2	3264.7	3410.8

FY87 MISSLE PROCUREMENT, ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	SURFACE-TO-AIR MISSLE SYSTEM				
C22100	CHAPARRAL	31.0	54.9	103.7	114.5
CC2100	NON LINE OF SIGHT AIR DEFENSE SYSTEM				14.2
CC2200	AIR DEFENSE SYS HEAVY			9.1	65.4
CC2300	AIR DEFENSE DIV SYSTEM LIGHT				
CA0275	OTHER MISSLE SUPPORT	8.3	5.0	6.5	4.7
C49100	PATRIOT (MYP)	958.8	928.1	951.5	912.7
C49100	PATRIOT (MYP) ADV PROC			45.3	40.1
C18500	STINGER (MYP)	207.3	246.6	251.7	337.7
C18500	STINGER (MYP) ADV PROC			40.3	45.5
	SURFACE-TO-AIR SYSTEM TOTAL	1205.4	1234.6	1408.1	1609.5
	AIR-TO-AIR MISSLE SYSTEM				
C70000	LASER HELLFIRE SYSTEM	224.0	223.2		190.6
	AIR-TO-SURFACE MISSLE SYSTEM TOTAL	224.0	223.2	0.0	190.6
	ANTI-TANK/ASSAULT MISSILE SYSTEM				
C59300	TOW 2	184.0	160.9	134.6	176.3
C59300	TOW 2 ADV PROC	16.2	22.0	15.5	
C76500	PERSHING	370.0	224.5	31.8	
C67600	MULTIPLE LAUNCH ROCKET SYSTEM (MYP)	371.6	468.9	474.2	480.2
C67600	MULTIPLE LAUNCH ROCKET SYSTEM ADV PROC	137.4	41.0		
	ANTI-TANK/ASSAULT MISSLE SYSTEM TOTAL	1079.2	917.3	656.1	663.5
	MODIFICATIONS				
C50700	PATRIOT	11.8	16.5	38.6	52.8
C24200	CHAPARRAL	93.8	106.7	5.2	13.5
C35200	HAWK	55.6	46.9	68.2	50.5
C61700	TOW	31.0	16.9	53.0	38.9
C57300	DRAGON			4.7	
C76200	LANCE MODIFICATIONS			3.8	16.1
C97500	LCSS	3.8			
C92800	PERSHING MODIFICATIONS	3.0			10.1
C54000	AN/TSQ-73	11.4			
	MODIFICATIONS TOTAL	210.4	187.0	173.5	181.9
	SPARES AND REPAIR PARTS				
CA0250	SPARES AND REPAIR PARTS	244.8	286.8	150.9	301.3
	SPARES AND REPAIR PARTS TOTAL	244.8	286.8	150.9	301.3
	SUPPORT EQUIPMENT AND FACILITIES				
C93000	AIR DEFENSE TARGETS	30.4	19.8	32.4	31.6
CL2000	ITEMS LESS THAN $2.0M (MISSILES)	6.6	3.7	1.5	2.2
CA0100	PRODUCTION BASE SUPPORT	56.5	29.9	15.7	17.7
CA4600	OTHER PRODUCTION CHARGES	38.6	2.0		
	SUPPORT EQUIPMENT AND FACILITIES TOTAL	132.1	55.4	49.6	51.5
ARMY MISSLE PROCUREMENT APPROPRIATION TOTAL		3095.9	2904.3	2438.2	2998.3

PROCUREMENT WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	TRACKED COMBAT VEHICLES				
G80300	CARRIER, COMMAND POST LIGHT, FT, M577A2	33.4	30.6	64.1	
G80711	CARRIER, PERSONNEL, FT, ARM, M113A3	8.9	117.7		80.8
G80702	BRADLEY FIGHTING VEHICLES (MYP)	844.8	905.9	1121.8	1163.6
G80702	BRADLEY FIGHTING VEHICLES (MYP) ADV PROC	24.9	27.6	20.6	13.2
G20900	BRADLEY (BFVS) TRAINING DEVICES	56.5	73.2	9.5	
GZ2500	BRADLEY (BFVS) TRAINING DEVICES (MOD)				6.2
G80100	FIELD ARTILLERY AMMUNITION SUPPORT VEH	81.2	64.8	67.5	77.4
G24600	HOWITZER, MED SP, FT, 155MM, M109A2	51.8			
G82500	RECOVERY VEHICLE, MED, FT, M88A1	148.3	199.4	42.8	121.1
G82916	ABRAMS TANK SERIES ROLL (MYP)	1524.7	1505.0	1643.6	1738.8
G82916	ABRAMS TANK SERIES ROLL (MYP) ADV PROC	308.3	348.2	351.4	356.0
GC2600	M60 SERIES TANK TRAINING DEVICES	13.9	16.8	33.5	32.4
GB1300	M1 SERIES TANK TRAINING DEVICES	37.3	61.0	9.5	.9
	TRACKED COMBAT VEHICLES TOTAL	3134.0	3350.2	3364.3	3590.4
	MODIFICATION OF TRACKED COMBAT VEHICLES				
GB1930	CARRIER, MOD	44.7	54.7	48.4	61.5
GZ2000	IMPROVED TOW VEHICLE (ITV) (MOD)	32.6			
GZ2300	FIST VEHICLE (MOD)	72.8	71.9	53.8	18.2
GZ2400	BFVS SERIES (MOD)	3.9	12.0	35.1	56.7
GA0400	HOWITZER, MED SP FT 155MM M109 (MOD)	28.8	6.0	20.8	64.5
GZ3000	ARMORED VEH LAUNCH BRIDGE (AVLB) (MOD)	13.4	15.6		
GA0650	TANK, COMBAT, FT, 105MM GUN, M60SER (MOD)	212.2	105.2	48.3	77.6
GA0700	TANK, M1 SERIES (MOD)	9.2	53.9	80.4	175.7
GZ3405	9WW				2.8
GA9002	MOBILE TRAINING BASE EQUIP			17.0	17.6
GA9003	HOST NATION SUPPORT			4.7	
	MOD OF TRACKED COMBAT VEHICLES TOTAL	417.6	319.3	308.5	474.6
	SUPPORT EQUIPMENT AND FACILITIES				
GA0150	SPARES AND REPAIR PARTS (TCV-WTCV)	426.1	600.6	469.8	542.1
GA0175	VALUE ENGINEERING	1.0			
GL3100	ITEMS LESS THAN $2.0M (TCV-WTCV)	1.7	.8	2.0	2.0
GA0050	PRODUCTION BASE SUPPORT (TCV-WTCV)	75.3	78.9	57.8	41.8
	SUPPORT EQUIPMENT AND FACILITIES TOTAL	504.1	680.3	529.6	585.9
	WEAPONS AND OTHER COMBAT VEHICLES -				
GZ6000	FOLLOW-ON AIR DEFENSE GUN		150.0		
G01300	HOWITZER, LIGHT, TOWED, 105MM, L119			26.5	32.0
G01402	HOWITZER, MED, TOWED, 155MM, M198				11.9
G11101	MACHINE GUN, 7.62MM, M60			5.0	5.4
G13000	ARMOR MACHINE GUN, 7.62MM M240	23.4		24.2	25.0
G10100	MOUNT MACH GUN CAL 50 M3				2.2
G12901	SQUAD AUTOMATIC WEAPON (SAW) 5.56MM			12.9	16.5
G13400	GRENADE LAUNCHER, AUTO, 40MM, MK 19-3	5.4			
G71100	LAUNCHER, SMOKE GRENADE	4.8	2.1	1.8	2.0
G02202	MORTAR, 81MM, M252	11.3	5.7	10.1	10.5
G03000	MORTAR, 120MM		5.0	13.2	22.4
G14900	M16 RIFLE	36.6	35.0	36.8	38.8
G15300	PERSONAL DEFENSE WEAPON, 9MM	9.1	[illegible].5	4.4	5.1
G21100	VEH RAPID FIRE WPN SYS-BUSHMASTER (MYP)	39.1	31.9	37.3	38.0
G21100	VEH RAPID FIRE-BUSHMASTER ADV PROC	3.0	8.3	3.2	2.2
G21400	TANK MUZZLE BORESIGHT DEVICE	3.2	4.0		
	WEAPONS AND OTHER COMBAT VEHICLES TOTAL	135.9	249.5	175.4	212.0
	MODIFICATION OF WEAPONS AND OTHER COMBAT VEHICLES				
GZ2800	M16A1 RIFLE MODS		3.3	3.3	3.5
GC0925	MODIFICATIONS UNDER $2.0M (WOCV-WTCV)	.9	2.5	4.0	4.8
	MODIFICATIONS OF WEAPONS/OTHER VEHICLES	.9	5.8	7.3	8.3
	SUPPORT EQUIPMENT AND FACILITIES				
GC0150	SPARES AND REPAIR PARTS (WOCV-WTCV)	22.0	28.6	17.6	28.0
GL3200	ITEMS LESS THAN $2.0M (WOCV-WTCV)	4.3	2.9	3.3	3.4
GC0050	PRODUCTION BASE SUPORT (WOCV-WTCV)	52.2	40.2	37.0	43.5
GC2701	CANNON TUBE FORGINGS FOR SURGE			9.6	
	SUPPORT EQUIPMENT AND FACILITIES TOTAL	78.5	71.7	67.5	74.9
	ARMY WEAPONS AND TRACKED COMBAT VEH TOTAL	4271.1	4676.8	4452.6	4946.1

AMMUNITION PROCUREMENT, ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	ATOMIC MATERIEL				
EA0050	NUCLEAR WEAPONS SUPPORT MATERIEL	11.8	3.4	2.6	2.4
E82700	PROJ, NUCLEAR, 155MM			11.7	
	ATOMIC MATERIEL TOTAL	11.8	3,4	14.3	2.4
	CONVENTIONAL AMMUNITION				
E00701	CTG, 5.56MM, BALL M193	7.7	10.1	15.0	10.9
E00702	CTG, 5.56MM, TRACER			5.6	6.8
E00703	CTG, 5.56MM, TRACER CLIP			4.8	.9
E01100	CTG, 5.56MM, BLANK M200	14.4	10.0	7.0	22.3
E01101	CTG, 5.56MM, BLK M200, LKD F/SAW	4.9	2.2	18.4	6.5
E04600	CTG, 5.56MM, 4 BALL M855/1 TRCR M856 LKD	7.9	9.6	29.4	36.3
E04601	CTG, 5.56MM, BALL M16-A2	10.1	25.0	3.4	26.5
E04602	CTG, 5.56MM, TRACER M16-A2	1.7	6.5		8.9
E02002	CTG, 7.62MM, 4 BALL M80/1 TRCR M62 LKD	22.9	25.8	68.5	81.3
E02003	CTG, 7.62MM, BALL M80 LKD/M13		.7	2.7	4.7
E02007	CTG, 7.62MM, LKD 4 BALL ITRACER OHF		2.0	.5	2.8
E01902	CTG, 7.62MM, BLANK M82 LKD/M13			15.9	11.2
E05700	CTG, CAL .45, BALL M1911	.7	2.2	.7	1.2
E07000	CTG, CAL .50, PLASTIC LKD 4 BALL/ 1 TRCR			5.4	2.8
E06400	CTG, CAL .50, LKD 4 BALL/1 TRCR W/M15A2LK	10.9	11.3	9.6	12.0
E06800	CTG, CAL .50, APIT, M20 LKD		1.4	4.0	5.3
E07100	CTG, CAL .50, BALL LKD		3.8	2.5	4.7
E07302	CTG, CAL .50, BLK, M1A1, LKD W/M9LK F/M2	19.5			12.6
E07303	CTG, CAL .50, BLK M1A1, LKD F/M85MG (MYP)				2.9
E07700	CTG, .50 CAL, LKD TRACER M17	3.2			
E07200	CTG, CAL .50, LKD 4 BALL/1 TRCR W/M9 LK		48.0	22.9	34.8
E08904	CTG, 20MM, LKD TP-T M220 SERIES MLB M14A2	4.2	7.9	9.7	7.9
E08902	CTG, 20MM, LKD 4 TP M55A2/1TP-T M220			3.3	5.0
E08201	CTG, 25MM, HEI-T M792 W/F	40.8	24.9	48.7	57.6
E08202	CTG, 25MM, APDS-T M791 W/M28(MYP)	49.6	11.1		
E08203	CTG, 25MM, TPT LKD M793 MLB M28		41.2	25.5	18.5
E09900	CTG, 30MM, LKD HEDP M789 W/FUZE	22.9	5.0		
E10100	CTG, 30MM, LKD PT M788	7.7	9.3	2.4	2.1
E11800	CTG, 40MM, HEDP M430	17.0	43.5	28.7	49.0
E71100	CTG, 40MM, TP F/MK19		4.8	7.5	8.0
E13300	CTG, 40MM, GREEN STAR PARACHUTE				3.9
E13800	CTG, 40MM, PRAC M781	5.1	4.6	3.6	7.6
E11300	CTG, 40MM, RED SMOKE MARKER			1.8	3.9
E11400	CTG, 40MM, GREEN SMOKE MARKER			1.9	3.9
E11500	CTG, 40MM, YELLOW SMOKE MARKER			1.9	4.1
E12100	CTG, 40MM, WHITE STAR CLUSTER M585 F/LCHR				2.7
E12400	CTG, 40MM, RED STAR, PARACHUTE				3.8
E15200	CTG, 75MM, BLANK, M337A1 F/HOWITZER		2.8		
E76100	CTG, 81MM: ILLUM XM853		7.5	3.4	2.9
E18403	CTG, 81MM: HE, M821 W/FUZE M734 MO	67.8	47.7	91.3	23.5
E76200	CTG, 81MM: SMOKE, RP, XM819		6.2	11.0	11.8
E69601	CTG, 81MM: FULL RANGE, PRACTICE, XM879	7.9			
E19800	CTG, 81MM: 1/10 RNG, PRAC, XM880		2.4	2.9	2.4
E25100	CTG, 4.2-IN HE M329A2 W/O FUZE	18.4	32.4	22.0	
E25501	CTG, 120MM: HE, XM933, W/FUZE M734 MO			44.7	42.6
E25503	CTG, 120MM: ILLUM, XM930			5.5	5.6
E25504	CTG, 120MM: SMOKE, XM929			14.3	14.2
E23900	CTG, 105MM, HEAT MP T M456A2	45.0	41.6	7.7	
E24000	CTG, 105MM,TP-T, M490	39.3	32.1		17.3
E67902	CTG, 105MM, TRACE-P FOR M833	5.7	2.3		
E22100	CTG, 105MM, DS-TP M724	80.8	89.4	41.6	42.2
E67901	CTG, 105MM, APFSDS-T M833	46.4	42.3	20.3	36.9
E73100	CTG, 120MM APFSDS-T M829	41.7	132.0	75.9	89.6
E73200	CTG, 120MM HEAT-MP-T, M830(MYP)	33.2	42.1	27.8	17.9
E73300	CTG, 120MM TP-TM831 (MYP)	40.4	39.6	38.8	
E73400	CTG, 120MM TPCSDS-T, M865(MYP)	62.6	65.0	104.9	123.2
E28100	PROJ, 155MM, HE, ICM M483	246.9	269.8	173.0	91.3
E67800	PROJ, 155MM, SMK, WP, M825	12.5	13.1	13.5	10.9
E67100	PROJ, 155MM, HE ADAM M692	32.0			
E67200	PROJ, 155MM, HE, ADAM M731	34.9	20.6	33.9	28.0
E67500	PROJ, 155MM, HE, RAAMS M718			11.9	8.9
E67502	PROJ, 155MM, HE RAAMS M741	100.9	75.1	105.4	37.1
E68500	PROJ, 155MM, BASEBLEED, XM864			31.6	71.7
E67600	PROJ, 155MM, HE COPPERHEAD (EA)	200.8	219.1	8.2	190.1
E28001	PROJ, 155MM, CHEM GB-2		21.7	60.6	
E27201	CHARGE, PROPELLING, M155MM GREEN BAG M3	32.4	12.2	38.0	6.1

E27301 CHARGE, PROPELLING, M155MM, WHITE BAG, M4	30.0			
E27303 CHARGE, PROPELLING, M155MM, RED BAG M203		20.4	20.0	37.6
E27100 CHARGE, PROPELLING, M155MM, RED BAG M119	120.4		55.6	46.9
E6700 PROJ, 8-INCH, HE ICM (DP), M509	129.5	50.0		
E66600 PROJ, 8-INCH, HE, RAP, M650	15.4	26.0	37.3	33.4
E29202 CHARGE, PROPELLING, 8-INCH WB, M188	64.7		4.0	
E62704 FUZE, PROXIMITY, M732				16.7
E62208 FUZE, PD M739/M739A1	3.6			
E61302 FUZE, MTSQ M577/M577A1	50.8	49.3	11.7	21.4
E61503 FUZE, MTSQ M582/M582A1	4.8	10.5	11.2	1.6
E63000 PRIMER, PERC, M82		2.9	1.8	1.4
E40601 GROUND IMP MINE SCAT SYS AP M74 (MYP)	19.5			
E40602 GROUND IMP MINE SCAT SYS AT M75 (MYP)	39.2			
E72194 CANISTER MINE (VOLCANO) PRACTICE XM88			1.9	3.0
E72195 CANISTER MINE (VOLCANO) XM87			31.6	31.2
E76900 MTR RKT 5 IN MK22 MOD4	4.0	11.4	13.3	9.3
E75100 LINE CHARGE M58A3 (MCLIC)	12.5	22.3	24.4	17.9
E71200 MODULAR MINE PACK SYSTEM	15.1		23.4	36.2
E77100 PURSUIT DETERRENT MUNITION			2.1	
E55400 DEMOLITION MUNITIONS & OTHER	18.4	16.5	13.7	17.1
E50700 DEMO KIT BANGALORE TORPEDO		3.0		
E53400 RETROFIT, CTG 105MM HE M760	2.3			
E36100 LIGHTWEIGHT MULTI-PURPOSE WEAPON	43.0	58.2	82.5	84.9
E32900 LIGHT WGT MULTI PURPOSE SYSTEM TRNR	3.4	3.1	2.5	2.4
E37327 HYDRA 70 RKT, MPSM HE M261 WHD (MYP)	33.0	28.9		
E37309 HYDRA 70 RKT, HE/RS (M151/M433)				12.9
E37314 HYDRA 70 RKT, ILLUM M257 WHD				6.2
E37334 HYDRA 70 RKT, MPSM PRAC M267 WHD	5.4	5.4	2.7	16.6
E37335 HYDRA 70 RKT, HE/PD (M151/M423/MK66)		7.0	44.8	
E34000 GRENADE, HAND, ALL TYPES	17.7	28.7	27.4	24.0
E33300 GREN SMK SCREENING RP L8A1/L8A3		9.8	6.3	3.8
E32500 GRENADE, SMOKE SCREENING IR M76	8.2	11.5	9.0	4.4
E46900 SIGNALS, ALL TYPES	25.7	14.9	18.0	14.4
E51200 SIMULATORS, ALL TYPES	12.2	19.9	4.3	20.5
CONVENTIONAL AMMUNITION TOTAL	2079.6	1927.6	1789.0	1927.0
MISCELLANEOUS				
EB0016 AMMO COMPONENTS/SUPPORT, ALL TYPES	32.0	21.3	20.3	15.1
E77000 CAD/PAD		.5	2.5	2.3
EA0055 ITEMS LESS THAN $2.0M (MISC-AMMO)	10.7	11.0	5.2	8.3
EA0650 SPARES AND REPAIR PARTS	1.0		1.2	1.7
EA0575 AMMUNITION PECULIAR EQUIPMENT	.9	5.2	7.8	8.1
E64500 NITROGUANIDINE (LB)	27.7	25.0	23.2	24.8
EA0525 COMP A-5			12.2	12.5
EA0512 COMP C-4			9.5	9.8
EA0514 PBX 0280			3.8	3.9
EA0520 COMP LX-14			3.8	4.0
EA0523 HMX EXPL-805			5.7	5.9
EA0535 WAR RESERVE STOCKPILING (EXPL/PROPELLANT)	33.0			
EA8000 AMMO 9WW/ELT	1.7	1.7	1.6	2.9
MISCELLANEOUS TOTAL	107.0	64.7	96.8	99.3
PRODUCTION BASE SUPPORT				
EP1000 PROVISION OF INDUSTRIAL FACILITIES	282.5	280.6	159.0	300.5
EA0054 COMPONENTS FOR PROVE-OUT		14.0	8.7	16.4
EP2000 LAYAWAY OF INDUSTRIAL FACILITIES	19.5	20.5	22.9	19.7
EP4000 JEFFERSON PROVING GROUND MODERNIZATION		2.0	2.2	
EP4100 CHEMICAL DEMILITARIZATION PROGRAM		81.3		
EP1220 MODERNIZATION PROJECTS		103.1	161.1	
PRODUCTION BASE SUPPORT TOTAL	302.0	501.5	353.9	336.6
ARMY AMMUNITION PROCUREMENT APPROPRIATION TOTAL	2500.3	2497.2	2254.0	2424.0

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
D00200	CHASSIS TRAILER GEN 2 1/2 TON 2W M200A1	5.6	7.6	4.1	
D00800	CHASSIS, TRAILER, GP, 3 1/2, 2W, M353			3.7	
D01100	DOLLY SET, TRANS SHELTER, 2 1/2T, M720				3.3
D01300	DOLLY SET, TRANS SHELTER, 5 1/4T, M832				3.0
D00501	DOLLY SET, TRANS SHELTER, 7 1/2T, M1022	3.6	5.5	6.2	7.8
D15201	MOTORCYCLE, GED, 2W, ROUGH TERRAIN		2.0	7.1	7.8
D01500	SEMITRAILER BB/CONT 22 1/2T M871 C/S	3.5			15.9
D01600	SEMITRAILER BB/CONT 34T M872 C/S		3.4	6.4	7.6
D01000	SEMITRAILER, LB, 12T M270A1-M269A1		9.3		
D00700	SEMITRAILER, LOW BED, 40T M870 (C/S)	3.2	12.2	1.9	15.2
D02400	SEMITRAILER, LOW BED HET, XM1000				32.8
D02300	SEMITRAILER, TANK, 5000G		19.8	8.8	8.5
D02700	SEMITRAILER, TANK, 7500G, BULKHAUL			7.3	10.3
D03200	SEMITRAILER, VAN ELECTRONIC 6T 2W M373A2				2.0
D04800	SEMITRAILER,VAN SUPPLY 12T, 2W, M129A2C			7.0	
D06200	TRAILER, CARGO 3/4T, 2W, M101A2 W/E		3.5	5.6	12.7
D06400	TRAILER, CARGO, 1 1/2T, 2W, M105A2	11.5	11.1		18.2
D05700	TRAILER, HEAVY, EXPANDED MOBILITY	4.7	-	7.4	8.3
D06800	TRAILER TANK WATER 400G 1 1/2T, 2W M149A1		4.0	5.9	18.4
D15400	HI MOB MULTI-PURP WHLD VEH (HMMWV) (MYP)	311.1	313.3	330.6	128.5
D11300	COMMERCIAL UTILITY AND CARGO VEHICLE	315.4			
D19000	SMALL UNIT SUPPORT VEHICLE (SUSV)		13.8	26.2	32.2
D14000	TRUCK, 5T, 6X6, ABT (MYP)	347.2	216.8		400.0
D16200	TRUCK, 10T, 8X8, ABT (MYP)	199.6	116.1	234.3	70.4
D15900	TRUCK, TRACTOR, LINE HAUL, M915A1				58.1
D16000	TRUCK, YARD TYPE, M878 (C/S)		3.1		
DA0925	MODIFICATION OF IN SERVICE EQUIPMENT	.8	1.5	3.8	15.5
G38900	SHOP EQUIPMENT, AUTO MAINT & REPAIR		.9	2.5	2.5
DL5110	ITEMS LESS THAN $2.0M (TAC VEH)	3.1	1.7	1.9	1.4
	TACTICAL VEHICLES TOTAL	1209.3	745.6	670.7	880.4
	NON-TACTICAL VEHICLES				
D23000	PASSENGER CARRYING VEHICLES	28.8	30.0	13.8	10.8
D24850	GENERAL PURPOSE VEHICLES	33.8	39.9	34.9	39.3
D25000	SPECIAL PURPOSE VEHICLES	10.5	13.0	9.7	14.0
	NON-TACTICAL VEHICLES TOTAL	73.1	82.9	58.4	64.1
	SUPPORT EQUIPMENT AND FACILITIES				
DA0350	SPARES AND REPAIR PARTS (TAC)	121.5	135.0	136.6	126.5
DA0400	PRODUCTION BASE SUPPORT (TAC)	3.2			1.8
	SUPPORT EQUIPMENT AND FACILITIES TOTAL	124.7	135.0	136.6	128.3
	TELECOMM EQUIP - READINESS COMMAND COMM				
BB5777	JCSE EQUIPMENT (USREDCOM)	4.7	.3	1.8	3.7
BZ9950	CINCS INITIATIVE			4.1	4.7
BB2000	CLASSIFIED PROJECT 9WW	24.4	14.2	9.1	8.2
	TELECOMM EQUIP - READINESS COMMAND TOTAL	29.1	14.5	15.0	16.6
	TELECOMM EQUIP - JOINT TACTICAL COMM PROG				
BA1055	MOD RCRD TFC TERM (MRTT)	18.3	29.3	31.9	41.3
BA1050	DIG GROUP MULTIPLEXER (DGM)	20.1	20.4	10.8	19.5
BA1045	RPTR/TERM ASSMBLGS	29.3	15.7	19.9	29.1
BA1040	RADIO TERMINALS AN/TRC-170	44.7	29.2	32.4	38.8
BA1035	MAINTENANCE SYSTEM AN/ARM-164			3.3	
BA1030	UNIT LEVEL SWITCHES		10.5	12.2	42.9
B59100	COM SYS CON EL AN/TYQ-16		15.9	23.6	33.6
B50400	DIG NSEC VTER TA-954	3.6	4.0	3.9	6.5
B72300	ANDVT TAC TERM, CV 3591		4.0	3.9	5.3
B74402	LIGHTWEIGHT DIGITAL FACSIMILE	8.3		1.2	6.2
BB1610	MOB SUBSCRIBER EQUIP	63.3	335.3	903.7	1019.8
BB1600	MOD OF IN-SVC EQ (TRI-TAC)	39.6	22.5	9.9	14.4
	TELECOMM EQUIP-JOINT TAC COMM TOTAL	227.1	486.8	1056.7	1257.4
	TELECOMM EQUIP - COMBAT SUPPORT COMM				
BA0027	COMM SYS (HTLD)		8.5		
B00500	SINCGARS	121.0	102.1	204.0	309.0
K08200	DIGITAL DATA GENERATOR BOX SG-1139	4.1			
B13300	HAND CRANK GENERATOR, G-76			2.5	
BU0055	IMP RADIO MODS				14.6
BU8100	IMP HF RADIO FAMILY	29.7	26.6	11.1	11.6
Z15700	OPTICAL LONG HAUL TRAN SYS			9.3	11.0
B10500	PWR SUPPLY PP-6148/U		.9	4.0	2.7

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
B45200	PULSE FORM RESTORER TD-206	1.1			
B05300	RADIO SET AN/PRC-70		11.6		
BC2200	SOF MOD RADIOS			4.5	3.2
B45500	ANTENNA GROUP OE-254		2.5	6.5	5.2
B02600	SMALL UNIT TRANS AN/PRC-68		1.0		
W18300	SMALL UNIT TRANSCEIVER			3.7	7.0
B01300	STEER NULL ANT PROC, CP-1380		15.4		
B76000	TELETYPEWRITER TERMINAL AN/UGC-74	5.2	2.1		
B71100	VEHICULAR INTERCOM SYSTEM			10.2	13.3
BB1550	MOD OF IN SVC EQUIP (CSC)	28.0	18.9	26.4	20.6
BZ8250	RDF COMM (SW ASIA)	24.5	19.5	14.9	21.3
BL5220	ITEMS LESS THAN $2.0M (CSC-C-E)	6.6	7.1	5.9	4.6
BC2150	SPEC OPS COMM SUP ELMT		11.3	15.2	1.8
	TELECOMM COMBAT SPT EQUIP TOTAL	220.1	227.5	318.2	425.9
	TELECOMM EQUIP-NMCS WIDE SUPPORT COMM				
BA8110	SECURE CONFERENCING PROJECT			4.5	4.4
	TELECOMM EQUIP-NMCS WIDE SPT COMM TOTAL	——	——	4.5	4.4
	TELECOM EQUIP-STARCOM NON-DCS				
BU3770	AR TELECOM AUTO PR (ATCAP)	6.7	9.2	3.2	5.6
BU4160	C-E FACILITIES/PROJECTS	21.7	18.8	4.7	10.5
BU4000	SOUTHCOM C3 UPGRADE		13.8	16.0	15.4
BD3100	ELECTROMAG COMP PROG (EMCP)	.2	.6	.5	.6
	TELECOMM EQUIP-STARCOM NON-DCS TOTAL	28.6	42.4	24.4	32.1
	TELECOMM EQUIP-LONG HAUL COMM (DCS)				
BU0200	AUTODIN (DCS)	7.4	4.8		
BU0300	DEFENSE DATA NETWORK (DDN)	6.5	6.5		
BB4960	SECURE VOICE IMPRV PROG (SVIP)	.8			
BU3800	TRANSMISSION MEDIA (EUCOM)	11.9	16.2	11.1	12.9
BU3850	TRANSMISSION MEDIA (PACOM)	15.4	30.8	15.8	6.3
BU3610	WW TECH CON IMP PR (WWTCIP)	9.9	5.3	2.7	4.0
	TELECOMM EQUIP-LONG HAUL COMM TOTAL	51.9	63.6	29.6	23.2
	TELECOMM EQUIP-SATCOM-GND ENVIRON				
BB8501	DIGITAL EQUIPMENT (DSCS)	24.8	39.9	29.3	29.0
BB8504	INTERCONNECT FACILITY (DSCS)	8.7	7.9	2.2	4.9
BA8300	JAM RESISTANT SECURE COM (JRSC)	27.9	19.6	9.3	17.2
BB8507	MED SAT TERM AN/GSC	58.9	62.0		
BZ3500	SPRD SPEC MUL ACC(DSCS)	27.1	18.0		
BB8509	DSCS OPERATIONS CONTROL SYS (DOCS)	41.6	31.2	80.3	66.2
BB8416	MOD IN-SVC EQUIP (DSCS)	3.6	8.5		
K28900	MPK SAT UHF TERM, AN/PSC-3	1.9	3.9	5.0	5.0
K45900	VEH SAT UHF TERM, AN/VSC-7		1.4	1.4	1.4
K23700	SINGLE CHANNEL OBJECT TACT TERM (SCOTT)				32.7
BB8417	MOD IN-SVC EQUIP (TAC SAT)	42.8	53.3	7.0	4.5
	SATCOM-GND ENVIRONMENT TOTAL	237.3	245.7	134.5	160.9
	TELECOMM EQUIP-EUCOM C3 SYSTEM				
BB8422	EUCOM C3 (NWS)	48.0	98.6	68.4	16.7
BB8430	PACOM C3 (NWS)			13.0	15.0
BA8200	EUCOM ALTERNATE SPT HQ (ASH)	6.9	7.7	3.8	
BA8250	USAREUR C2 PROJECT			7.7	7.8
	TELECOMM EQUIP-EUCOM C3 SYSTEM TOTAL	54.9	106.3	92.9	39.5
	TELECOMM EQUIP-COMSEC EQUIPMENT				
T68000	AUTO KEY DC KGX-93/TSEC		4.3	4.1	4.2
BZ8950	SECURE VOICE IMPROVEMENT PROGRAM (COMSEC)	17.5	12.0	13.7	19.1
T53000	LOOP KEY GEN TSEC/KG-82	9.2	2.1		
T54000	DED LOOP ENCRYP DEV KG-84	14.4	31.8	18.7	19.9
T67500	TNK ENCRYP TSEC/KG-93		2.2	2.1	2.7
T02100	TSEC/KG-94	11.7	7.8	12.3	9.9
T05400	TSEC/KG-95 KEY GENERATOR	7.1			
T55000	INT LEV T SET TSEC/ST-34	1.5	.8		
T54500	DIG SUB VOICE TSEC/KY-68	3.6	2.0		
T88500	TSEC/KY-90	2.8	5.4		
T06200	KEY GENERATOR, TSEC/KG-87		2.0	1.8	1.3
T84500	KGV-6/TSEC	1.1			
T06400	COMSEC MODULE, TSEC/KGV-13		3.8	19.9	6.7

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
T99500	FREQ MODULE, KGV-10/TSEC	12.9	13.9	9.1	13.8
T5000	SPEECH SECURE EQ TSEC/KY-57	39.8	35.0		
T50500	SPEECH SECURE EQ TSEC/KY-58	5.1			
T90500	TSEC/KYV-5 (VACTOR) SECURE EQUIP		.9	.5	1.5
BQ0200	TEMPEST (COMSEC)	5.2	1.1	.7	1.2
T06300	KOK-13/TSEC (KDC)			1.9	.8
T01600	TSEC/KGV-8 (THORNTON) SECURE MODULE			.6	3.1
T88000	BERDAN KGV-9	4.4			
T03200	TSEC/KGV-11/SECURE MODULE		1.3	1.4	1.5
T87000	UMSTEAD CC (CI-11-1)	2.8	3.0		
T87500	UMSTEAD RT (CI-11-2)	2.1	6.8		
T92500	BATSON II, TSEC/CI-14		8.4		
BL5264	ITEMS LESS THAN $2.0M (COMSEC)	7.6	8.2	11.7	7.7
	TELECOMM EQUIP-COMSEC EQUIPMENT TOTAL	148.9	152.8	98.5	93.4
	TELECOMM EQUIP-BASE COMM				
BB8700	BASE COMM (CONUS)	35.8	34.5	35.8	36.9
BU4165	LOCAL AREA NETWORK (LAN)			1.7	10.6
BB8800	BASE COMM (EUCOM)	19.3	6.8	7.9	13.1
BB8900	BASE COMM (PACOM)	4.9	4.0	1.6	6.0
BU1130	DA COMD + CON SYS (DACCS)	3.6	10.3		
BU1200	ARMY OPNS CTR		5.0	4.3	
BQ0100	PENTAGON TELECOM CTR (PTC)	1.9	9.8	4.1	
	TELECOMM EQUIP-BASE COMM TOTAL	65.5	70.4	55.4	66.6
	TELECOMM EQUIP-TMDE				
BZ5270	TMDE MODERNIZATION	21.5	27.0	16.9	19.4
	TELECOMM EQUIP-TMDE TOTAL	21.5	27.0	16.9	19.4
	OTHER ELECT SYS/EQUIP-INTELLIGENCE SUPPORT				
BB2050	4TH PSYOP GROUP			12.5	11.1
K28800	ALL SOURCE ANALYSIS SYSTEM (ASAS)-TIARA				
V29600	COMMANDERS TACTICAL TERMINAL			14.7	
V07300	TRAILBLAZER	58.6	19.2		
BZ7315	TAC ELEC SURV SYS	19.3	15.8	4.0	3.5
K06800	MANPACK RADIO DF SYSTEM (MRDFS)		7.0	5.6	
V07800	TEAM PACK		6.0		
BZ9750	MOD IN SVCEQU (INT SPT) TIARA	48.7	20.2	37.3	35.9
BL5278	ITEMS LESS THAN $2.0M (INT-SPT-C-E)	3.7	5.6	.5	.1
BB6010	FT DEVENS TRAINING SUPPORT	13.5	.4	.4	.5
BA0326	TROJAN	2.9	9.2		
	OTHER ELECT SYS/EQUIP-INTEL SPT TOTAL	146.7	83.4	262.2	216.7
	OTHER ELECT SYS/EQUIP-GEN DEF INTEL PROG				
BD3900	INTELL DATA HANDLING SYS (IDHS)	14.2		23.0	
BZ8920	TECH RECON AND SURV SYS (TECRAS)	5.5		10.9	
BL5282	ITEMS LESS THAN $2.0M (FCI/S&IA-C-E)			1.1	
BL5283	ITEMS LESS THAN $2.0M (GDIP-C-E)	5.0		9.1	
	OTHER ELECT SYS/EQUIP-INTEL SPT TOTAL	24.7		44.1	
	OTHER ELECT SYS/EQUIP-AUTO DATA PROCESS SYS				
BD3970	VERT INSTL AUTO BASELINE (VIABLE-BASOPS)	33.7	18.7	41.8	36.7
BA2090	VIABLE INSTALLATIONS IN EUROPE & WESTCOM	8.7			
B78400	BATTERY COMPUTER SYSTEM	28.7	17.7	11.0	
BD3950	AMC FIVE YEAR ADP PROGRAM	4.9		4.0	5.0
B28600	ADV FIELD ARTILLERY TACT DATA SYS		25.6		10.7
BU1400	ARMY DATA DISTRIBUTION SYSTEM-ADDS		21.6	75.5	162.3
BZ9200	TRADOC AUTOMATION	9.9		3.7	1.9
BZ9300	USAREUR TACTICAL AUTOMATION		2.2	2.0	2.1
BD3955	LIFE CYCLE SOFTWARE SUP (LCSS)	1.0	3.5	9.1	6.5
BE4150	ADPE FOR NON TAC MGT INFO SYS	59.8	42.1	40.4	38.7
BE4152	SUPERCOMPUTERS			22.9	24.3
BE4154	ARMY CORPORATE DATABASE			.9	2.4
BE4156	SOLDIER DATA TAG				5.2
BE4158	PROJECT 80X PHASE II			12.9	17.4
BE4157	TRANS OF PERS PROP			2.9	1.2
BE4160	STD ARMY AUTO CONTRACT SY			6.8	6.8
B78301	DIGITAL MESSAGE DEVICE	12.0			
B83900	FIRE SUPPORT TEAM DIGITAL MESSAGE	14.5	17.2	17.0	5.6
BZ9851	FORWARD ENTRY DEVICE			12.0	17.9
BE4200	NON-CENTRALLY MANAGED ITEMS		105.3		
BA9300	MANEUVER CONTROL SYSTEM	27.9	59.9	56.9	57.4

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
BC1000	MOD IN SVC COMD/CONTROL (C2)		2.9		
BZ9350	CORPS/THEATER ADP SVC CTR (CTASC)	6.0		9.7	20.4
B62000	TACT ARMY CMBT COMPT SY (TACCS)	20.7	44.6	42.9	16.8
B40200	DECENTIZED AUTO SER SUP SYS MOD 'B'	38.2			
K99200	COMPUTER BALLISTICS: MORTAR XM-23	12.7	6.0		
BZ8889	CSS LOG APPLC AUTO MARK/READ SYMBS (LOG MARS)		10.6	11.4	12.3
BE4100	WWMCCS INFORMATION SYSTEM (WIS)	14.2	7.1	36.2	29.0
BZ8888	UNIT LEVEL COMPUTER (ULC)	2.2	5.5		
	OTHER ELECT SYS/EQUIP-ADP SYS	295.2	390.5	420.0	480.6
	OTHER ELECT SYS/EQUIP-AUDIO VISUAL				
BZ8480	AFRTS (AUDIO VISUAL)	4.1	7.8	8.0	6.7
BE1000	DIG STRG & RTRVL ENGRG DATA SYS (DSREDS)	4.8	24.3		
BL5298	ITEMS LESS THAN $2.0M (A/V-C-E)	12.7	11.3	9.1	17.6
	OTHER ELECT SYS/EQUIP-AUDIO VISUAL TOTAL	21.6	43.[illegible]	17.1	24.3
	OTHER ELECT SYS/EQUIP- ELECTRONIC WARFARE				
V02300	COUNTERMEASURES SER AN/TLQ-17A		5.7		5.8
V31100	JAMMER, HAND EMPLACED, EXPENDABLE				
V07200	TACJAM, AN/MLQ-34	32.0	19.0	33.0	
VV0255	TACTICAL DECEPTION (TAC-D)		5.2		
BA6100	MOD IN SVC EQUIP (EW)	12.6	2.1	8.3	19.3
BL5292	ITEMS LESS THAN $2.0M (EW-C-E)		2.9	.8	.8
	OTHER ELECT SYS/EQUIP-ELECT WARFARE TOTAL	44.6	34.9	42.1	66.3
	OTHER ELECT SYS/EQUIP-TACTICAL ELECTRONICS				
B81100	BATTERY CHARGER PP-7286/U	1.7	3.5	3.0	8.2
K02900	POWER SUPPLY, PP-6224	1.0	1.9	3.2	3.2
B92400	COMPUTER/INDICATOR, CP-696/PD		4.0	3.7	4.8
K27800	METEROLOGICAL DATA SYS (FAMAS)	33.6	33.0	32.8	33.7
B92000	GND/VEH LASER LOC DESIGNAT'R (G/VLLD)	45.0	45.0		
B81200	HAND HELD LASER RANGEFINDER AN/GVS-5	4.9		6.8	10.5
BZ7900	INTRUSION DETECTION DEVICES	26.8	16.6	20.8	7.0
K47800	NAVSTAR GLOBAL POSITIONING SYSTEM		9.7	5.2	9.9
M75700	POSITION/AZIMUTH DETERMINING SYS (PADS)		19.9	35.7	37.3
K37500	TAM-6 NIGHT SIGHT MAINTENANCE FACILITY	2.3	4.2		
K56900	AN/TAM-3 TEST SET, NIGHT VISION SIGHT	1.1	2.3		
K35500	NIGHT OBS DEVICE LONG RANGE AN/TAS-6				29.7
KA3500	NIGHT VISION GOGGLES	34.8	64.9	63.2	70.0
K41500	NIGHT VISION SIGHT INDIV WPN N/PVS-4	12.6	9.9	10.0	14.6
B26200	POS LOCATION REPORTING SYS (PLRS) (MYP)	50.3	45.1	4.0	
B43300	RADIAC SET AN/VDR-2		2.0	4.0	6.3
BA9200	REMBASS-TIARA	21.1	22.0		
A02900	RPV TA/DESIGN AERIAL RECON SYS (TADARS)		21.9	117.7	193.3
BA1080	JOINT STARS (ARMY)			63.4	107.9
K71400	SHOP SHELTER MTD ASM-189			2.2	10.8
K71500	SHOP SHELTER MTD (STOR) AN/ASM-190				3.3
K71700	TEST SET, RADAR, AN/TPM-25	1.2			4.9
K10600	SHOP SHELTER MDT-REP AN/ASM-146			2.1	
BZ7325	MODIFICATION OF IN SVC EQUIP (TAC EL)		3.5	38.5	41.5
BL5295	ITEMS LESS THAN $2.0M (TACT ELEC-C-E)	7.9	9.5	8.4	9.6
	OTHER ELECT SYS/EQUIP-TACT ELECT TOTAL	244.3	318.9	424.7	606.5
	OTHER ELECT SYS/EQUIP-TMDE FOR TACTICAL ELECTRONICS				
K07900	TEST STA, ELECTRONIC EQUIP, AN/USM-410	5.2	8.9		
K18400	BASE SHOP TEST FACILITY				21.1
K51600	CONTACT TEST SET				7.3
M87001	TMDE FOR STE/ICE		5.6	6.5	7.7
M87003	CORE ELECTRONIC AUTO TEST (STE-X)		8.5	3.0	6.5
	ELECT SYS/EQUIP-TMDE FOR TAC ELECT TOTAL	5.2	23.0	9.5	42.6
	OTHER ELECT SYS/EQUIP-SUP EQUIP AND FAC				
BA9500	SP/REP PARTS (TELECOMM-C-E)	190.6	189.2	183.2	202.6
BA9700	SP/REP PART (COMSEC)	7.5	14.6	11.4	13.0
BA9600	SPARES AND REPAIR PARTS	155.4	205.0	260.3	308.9
BA9800	WAR RESERVE SPARES	8.0	18.0		
BF5500	SPECIAL PROGRAMS	50.7	95.0	115.8	208.5
BB9050	QUICK RETURN ON INVESTMENT (QRIP) PGM	1.1	.5		
BB9000	PRODUCTIVITY INVESTMENT FUNDING	27.1	40.7	31.1	.4
BB9051	PROD ENHANCING CAP INVESTMENT PROG (PECIP)		1.0	21.8	
BF5400	PRODUCTION BASE SUPPORT (C-E)	12.5	5.0	8.1	3.1
	SUPPORT EQUIP AND FACILTIES TOTAL	452.9	569.0	631.7	736.5

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	CHEMICAL DEFENSIVE EQUIPMENT				
M96200	SIM DET CHEM AGENT AUTO ALARM XM81	1.2	4.7		
M67400	DECONTAMINATE APP PWR DR LT WT XM17	3.3	6.4	3.9	7.0
MA5000	MASK, PROTECTIVE, NBC	34.7	30.3	19.9	61.7
S02200	CHEMICAL AGENT MONITOR	7.8	19.4		19.6
M97400	SIMP COLL PROT EQUIP XM20		3.9	4.1	5.8
M98300	MODULAR/COLL PROT EQUIP FOR VV AND S	9.3	3.1		10.7
M98800	AUTO CHEMICAL AGENT ALARM (ACADA), XM22			9.0	7.1
M99104	GEN SET, SMOKE, MECH: PUL JET, XM157		4.2	7.0	
MA7000	MODS IN SVC (CHEM)	6.0			
	CHEMICAL DEFENSIVE EQUIPMENT TOTAL	62.3	72.0	43.9	111.9
	BRIDGING EQUIPMENT				
M23600	RIBBON BRIDGE ERECTION BOAT		25.4	19.2	18.9
M26600	BRIDGE, FLOAT RIBBON, INTERIOR BAY		7.1	7.2	7.5
M26700	BRIDGE, FLOAT RIBBON RAMP		3.8	3.2	3.5
M26800	BRIDGE, FLOAT RIBBON, TRANSPORTER	12.4	18.0	18.2	18.5
ML5315	ITEMS LESS THAN $2.0M (BRIDGING)	1.7	.9	1.3	1.8
	BRIDGING EQUIPMENT TOTAL	14.1	55.2	49.1	50.2
	ENGINEER (NON CONSTRUCTION) EQUIPMENT				
G27000	GEMSS AUX MINE DISPENSER XM138		2.0	3.9	4.0
G39100	DISPENSER MINE XM139			1.7	1.5
G22500	MIXER/PUMPER UNIT (MPU) TEXS				13.0
X00700	MARKING SYS, CLEAR LANE		3.0	3.2	2.0
M15300	E DET SET, MINE, MET/NON-MET, AN/PRS-8		8.1		5.6
M17900	DETECTING SET, MINE, AN/PSS-12			4.9	3.1
R06100	MINE PLOW			5.5	4.7
X00600	MINE CLEARING ROLLER	2.6	3.5	3.7	7.6
G00501	REMOTE CONTROL UNIT (MOPMS)		4.6	9.8	9.6
R20000	SURVEY SET DISTANCE MEASURING INFRARED	1.1		2.8	
M05900	M-9 ARMORED COMBAT EARTHMOVER (ACE) (MYP)	11.7	42.4	30.4	159.1
ML5320	ITEMS LESS THAN $2.0M (ENG NON-CONST)	1.8	3.3	.9	.9
	ENGINEER (NON CONSTRUCTION) EQUIP TOTAL	17.2	66.9	66.8	211.1
	COMBAT SERVICE SUPPORT EQUIPMENT				
MF9300	AIR CONDITIONERS VARIOUS SIZE/CAPACITIES	16.2	14.8	32.2	14.7
M86600	FIELD KITCHEN, MOBILE, TRL MTD		5.3	13.1	15.7
M86900	MODULAR FIELD KITCHEN			11.6	15.2
MA9500	DIVING EQUIPMENT	.7	.4	1.8	3.4
MA9600	FIRETRUCKS	8.9	9.0	16.0	13.7
M90900	HEATER DUCT TYPE, 250K/400K BTU				4.8
M87600	LAUNDRY UNIT/TRL MTD	2.6		7.3	7.0
MB2000	TAG PRINTING AND BINDING EQUIPMENT	4.6	5.4	4.3	5.2
ML5325	ITEMS LESS THAN $2.0M (CSS-EQ)	14.0	8.7	11.3	20.7
MA8100	MODIFICATIONS OF IN SVC EQUIPMENT (CSE)	1.4	3.8	8.9	5.0
	COMBAT SERVICE SUPPORT EQUIPMENT TOTAL	48.4	47.4	106.5	105.4
	PETROLEUM EQUIPMENT				
M19000	TANK ASSEMBLY FAB COLL POS 50000G	2.2	5.1	4.6	4.4
M64000	FORWARD AREA REFUELING EQUIPMENT			2.8	3.0
M64900	TANK ASSEMBLY FAB COLLAPSIBLE 10K G	10.8	5.8	6.6	7.9
R21400	TANK ASSEMBLY FAB COLL, 20K GAL POL			6.3	
M62300	TANK/PUMP UNIT LIQ DISP F/TRK MOUNTING	12.6		1.0	5.9
M73300	LABORATORY, PETROLEUM, SEMI-TRLR MTO			3.2	3.6
M63900	PUMP ASSEMBLY LIQ GAS WHL 4 IN OUT 350GPM	3.1	5.8	12.2	
M12700	PUMP CENTRIFUGAL 4X4 DED	7.6			
MA0260	PIPELINE FOR TUSA	22.0			
MA5120	SWA PETROLEUM DISTRIBUTION		38.9	39.3	43.4
ML5330	ITEMS LESS THAN $2.0M (POL)	2.1	3.5	6.7	3.4
	PETROLEUM EQUIPMENT TOTAL	60.3	59.1	82.7	71.6
	WATER EQUIPMENT				
M16600	WTR PUR UNIT REV OS 3000 GPH (ROWPU)		14.0	33.9	21.4
M18000	WATER PUR UNIT, REV OSMOSIS, 600GPH	10.6	24.0	29.5	36.8
M13500	WATER STOR AND DIST SYS 800K GAL	3.3			
M13300	WATER STOR DIST SYS 1.0M GAL	1.1			
M27400	TACTICAL WATER DISTR SYS	8.6	8.3		8.6
M18100	FWD AREA WTR POINT SUP SYSTEM	4.6			
M66000	TANK, FABRIC, COLL, WTR, 3K GAL (SMFT)	1.0			
M15000	TANK, FAB, COLL, 3K GAL WATER (ONION)			2.9	

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
M14100	TANK, FABRIC, COLL, WTR, SEMI-TRLR MTD 5M	2.2	1.6		
M15700	SMALL MOBILE WATER CHILLER (SMWC)	2.6	2.2	1.5	
R01400	DRILL MACH, WELL 600FT	1.5			
M15900	PUMP CENTRIFUGAL 65GPM		3.4	2.1	
ML5335	ITEMS LESS THAN $2.0M (WATER EQ)	6.1	1.9	2.5	4.8
	WATER EQUIPMENT TOTAL	41.7	55.4	72.4	71.6
	MEDICAL EQUIPMENT				
MB9700	DEPLOYABLE MEDICAL SYSTEM (DMS)	52.1	96.7	88.8	98.6
MA8045	CBT SUP EQUIP MEDICAL	50.6	98.7	48.1	53.6
MA9900	MEDICAL SUPPORT EQUIPMENT	49.8	83.9	70.8	104.6
	MEDICAL EQUIPMENT TOTAL	152.5	279.3	207.7	256.8
	MAINTENANCE EQUIPMENT				
M61500	SHOP EQ CONTACT MAINT TRK MTD (MYP)	20.4	27.0		12.2
M61500	SHOP EQ CONTACT MAINT TRK MTD ADV PROC	36.6			
M61900	SHOP EQUIPMENT, ORG REPAIR, TRK MTD	19.9			
M67000	WELDING SHOP, TRAILER MTD	10.0	9.8	9.7	9.8
M61600	SHOP EQ ELECTRICAL RPR SEMI-TRLR MTD	6.0	13.5	14.5	9.6
S60000	STEAM CLEANER			5.0	10.4
M63300	E WELDING MACHINE ELEC ARC 350AMP (CC-CP)			5.7	
MA9160	BUILDING, PRE-FAB, RELOCATABLE			1.2	1.2
MA0460	CALIBRATION SET SUPPORT	10.0	7.7	12.7	12.7
ML5345	ITEMS LESS THAN $2.0M (MAINT EQ)	9.5	9.5	10.3	10.9
	MAINTENANCE EQUIPMENT TOTAL	112.4	67.5	59.1	66.8
	CONSTRUCTION EQUIPMENT				
R03800	GRADER, ROAD MOTORIZED, HVY, 6X4 (CCE)	10.4			
M06400	LOADER, SCOOP TYPE, DD 4WHL, 2-1/2 CU YD	4.0			
M06100	TRACTOR FULL TRACKED LOW SPEED DD MED	11.9	26.4	73.6	
R04800	SMALL EMPLACEMENT EXCAVATOR (SEE)	28.2	25.3	25.0	36.3
R05000	CRANE, WHL MTD, HYDRAULIC 7 1/2 TON	25.7			14.2
M09800	COMPRESSOR, AIR ROTARY, 250 CFM, 100 PSI	14.0			
MA8300	MODS OF IN SVC EQUIP (CONST EQUIP)			.1	.2
ML5350	ITEMS LESS THAN $2.0M (CONST EQUIP)	2.0	6.0	.7	6.6
	CONSTRUCTION EQUIPMENT TOTAL	96.2	57.7	99.4	57.3
	RAIL FLOAT CONTAINERIZATION EQUIPMENT				
M34200	LANDING, CRAFT, UTILITY	15.7	22.9	29.3	25.2
M44600	TUG INLAND AND COASTAL WATERWAYS			30.1	
M11200	LOGISTIC SUPPORT VESSEL (LSV)	20.2		19.9	19.7
R09800	RO/RO DISCHARGE PLATFORM	11.6	11.2		
R97500	CAUSEWAY SYSTEMS	13.5	12.9	28.8	21.6
MA4029	ARAPAHO		5.0		
M39500	RAILWAY CAR, TANK, POL, 20000G			9.8	.1
M37300	RAILWAY CAR, FLAT, 140 TON	12.8			
M92000	SHIPPING CONTAINER	1.9			
MA8950	MODIFICATIONS OF IN-SVC EQU (FLOAT/RAIL)	7.4	1.0	5.7	13.6
ML5355	ITEMS LESS THAN $2.0M (FLOAT/RAIL)	.5	4.2	1.0	3.4
	RAIL/FLOAT CONTAINERIZATION EQUIP TOTAL	83.6	57.2	124.0	83.6
	GENERATORS				
MA9800	GEN AND ASSOCIATED EQUIP	104.1	90.0	115.9	115.2
	GENERATORS TOTAL	104.1	90.0	115.9	115.2
	MATERIAL HANDLING EQUIPMENT				
X50000	TRUCK, FORK LIFT, CBD, PT, 4000 LB	7.6		13.3	12.6
X51100	TRUCK, FORK LIFT, CBD, PT, 6000 LB	3.5	13.5	12.3	10.6
M48400	TRUCK, FORK LIFT, GE, SRT, 2000 LB		2.9		
M48800	TRUCK, FORK LIFT, DE PT, RT 10000 LB				33.7
M48900	TRUCK, FORK LIFT, DE, PT, RT, 6000 LB	.1		21.0	28.4
M49300	TRUCK, FORK LIFT, ELEC, SRT, 6000 LB	2.8	4.6		
M41100	TRUCK, FORK LIFT, ELEC, SRT FRT/SIDE LDR		2.0		
M49200	TRUCK, FORK LIFT, ELEC, SRT 4000 LB	4.4	12.9	1.7	
X00900	65 TON CRANE		6.2	42.6	42.7
ML5365	ITEMS LESS THAN $2.0M (MHE)	3.4	5.0	2.4	8.0
	MATERIAL HANDLING EQUIPMENT TOTAL	21.8	47.1	93.3	136.0

OTHER PROCUREMENT , ARMY

SSN	ITEM NOMENCLATURE	FY85	FY86	FY87	FY88
	OTHER SUPPORT EQUIPMENT				
MA0350	SPARES AND REPAIR PARTS (OTHER)	34.2	37.7	54.4	55.6
MB7000	BASE LEVEL COM'L EQUIPMENT	36.8			
MB2100	AREA ORIENTED DEPOT UPGRADE	37.4	83.2	60.5	
MA5550	PROD ENHANCING CAPITAL INVEST PRGM	2.9			
MA5500	QUICK RETURN ON INVESTMENT PROGRAM	15.0			
MA5730	PROJECT RESHAPE (HQ DARCOM)		6.0		
MA0450	PRODUCTION BASE SUPPORT (OTHER)	6.5	7.9	34.4	12.0
MA5600	OSD PRODUCTIVITY INVESTMENT FUNDING	.9		4.9	
MA6700	SPECIAL EQUIPMENT FOR USER TESTING	14.1	11.2	13.3	18.0
ML5390	ITEMS LESS THAN $2.0M (OTHER SPT EQ)	.6	.6	1.0	.9
MA5175	HOST NATION SUPPORT - EUROPE	17.7	41.0	41.9	18.2
MA6600	NATIONAL TRAINING CTR SUP		13.3	10.8	5.0
MA1300	SWA STAGING BASES		6.4		6.2
NA0100	TRAINING DEVICES, NONSYSTEM	139.9	177.8	186.1	235.4
MA9996	SPECIAL PROGRAMS	42.9			16.2
MB7101	BCE (NCMI)			61.6	42.5
MB7102	PECIP (NCMI)			6.5	7.4
MB7103	QRIP (NCMI)			9.1	10.3
	OTHER SUPPORT EQUIPMENT TOTAL	348.8	385.1	484.5	427.7
	OTHER PROCUREMENT, ARMY, TOTAL	4890.7	5240.3	6169.0	7189.9

Dr. Jay Raymond Sculley

Assistant Secretary of the Army
(for Research, Development, and Acquisition)

Dr. Jay R. Sculley, the Assistant Secretary of the Army for Research, Development and Acquisition, took office on October 13, 1981.

As Assistant Secretary of the Army for Research, Development and Acquisition, Dr. Sculley is the Scientific Advisor to the Secretary of the Army and is responsible for Army wide policy development and oversight of research, development, test and evaluation programs and of materiel acquisition management, policies and procedures. He is also responsible for implementation of worldwide security assistance policies and international programs.

Dr. Sculley is a graduate of Virginia Military Institute where he received a Bachelor of Science degree in Civil Engineering in 1962. Following graduation from VMI, he served as an officer in the U.S. Air Force and later was a designengineer with the Dupont Company before earning his MSE and Ph.D. at the Johns Hopkins University.

In 1970, Dr. Sculley joined the VMI faculty and served four years as an assistant professor of civil engineering before electing in 1974 to leave teaching and enter industry. He was General Management of Corrugated Services, Inc., a Texas paper recycling company, for one year before returning to VMI in 1975. During his faculty years at VMI, he was actively involved in engineering research through the VMI Research Laboratories, Inc. He is the author of numerous papers and has been elected to Who's Who in Engineering. At the time of his appointment by President Reagan, he was Professor and Head of Civil Engineering, VMI's largest academic department.

Since assuming his present position, Dr. Sculley has been instrumental in improving the management and cost discipline of major hardware acquisition programs. He directed the integration of technology base efforts throughout the Army and expanded the program for centers of excellence at American universities for Army sponsored research. He has also initiated programs to upgrade the training, development and utilization of people throughout the research, development and acquisition field.

Dr. Sculley is married to the former Peggy Lee Winkel of Baltimore. They have one daughter, Rebecca Lee.

Lieutenant General Louis C. Wagner, Jr.,

USA Deputy Chief of Staff
for Research, Development, and Acquisition
Department of the Army

Lieutenant General Louis C. Wagner, Jr., born on 24 January 1932 in Jackson, Missouri, was graduated from the U.S. Military Academy in June 1954 and began his military career as a Second Lieutenant, Armor. General Wagner's early assignments included command positions with the 11th Airborne Division in the U.S. and Germany followed by an assignment to the 6th Armored Calvary. General Wagner also served two tours in Vietnam as an advisor for infantry and armor units, attended graduate school at the University of Illinois, and instructed at West Point for three years.

Key assignments in General Wagner's military career include command of a light airborne armored battalion at Fort Riley and Fort Bragg, command of the 1st Brigade, 3rd Armored Division, Germany and Commander of the U.S. Army Armor Center and Fort Knox. He was also assigned to the Office of the Chief of Staff, U.S. Army. Additional DA staff positions included Deputy Director, Materiel Plans and Programs and Director of Combat Support Systems, Office of the Deputy Chief of Staff for Research, Development and Acquisition. Prior to his current assignment he served as Assistant Deputy Chief of Staff for Operations and Plans for Force Development.

General Wagner's military education includes attendance at the Armor Basic and Advanced Courses, Ranger and Airborne Schools, U.S. Army Command and General Staff College and the Naval War College.

His military awards include the Distinguished Service Cross, Distinguished Service Medal, Silver Star, two awards of the Legion of Merit, Bronze Star Medal, Meritorious Service Medal, two awards of the Air Medal, three awards of the Army Commendation Medal, Purple Heart, Combat Infantryman Badge, Senior Parachutists Badge, Ranger Tab, and various foreign decorations.

General and Mrs. Wagner, the former Mary Judith Gifford of Webster Groves, Missouri, have three children: Susan, Stephen and Amy.

General Wagner assumed his duties as Deputy Chief of Staff for Research, Development and Acquisition on 1 August 1984 following his promotion to Lieutenant General.

Dr. SCULLEY. At this time I will ask General Wagner, with your permission, to discuss some of the details in the fiscal year 1987 request.

Senator STEVENS. Fine. General Wagner.

General WAGNER. I will only spend 8 to 10 minutes going over some of the programs and how we put our programs together. Then we will be able to answer any specific questions you ask.

[Slide presentation.]

BUDGET OVERVIEW

General WAGNER. This just summarizes what Dr. Sculley has pointed out to you. The part we are interested in today is the procurement appropriation and the RDT&E appropriation taken out of the Army's total budget this year of approximately $80 billion.

THE FY87 RDTE BUDGET REQUEST

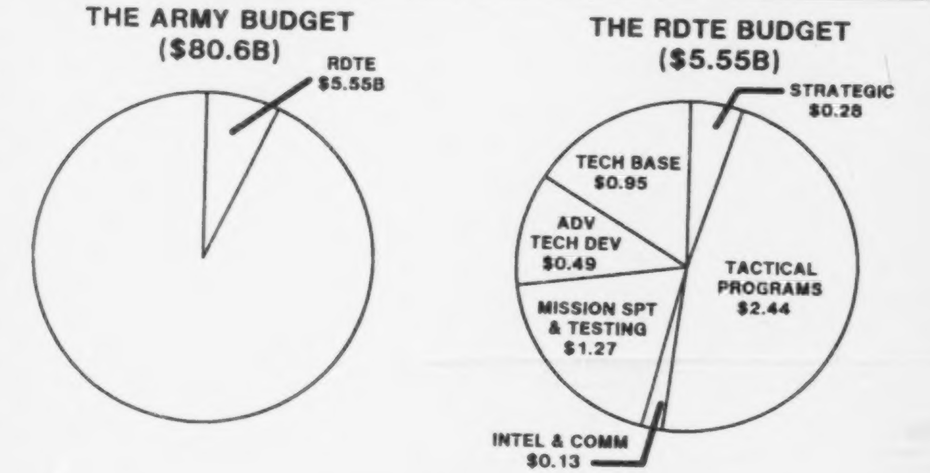


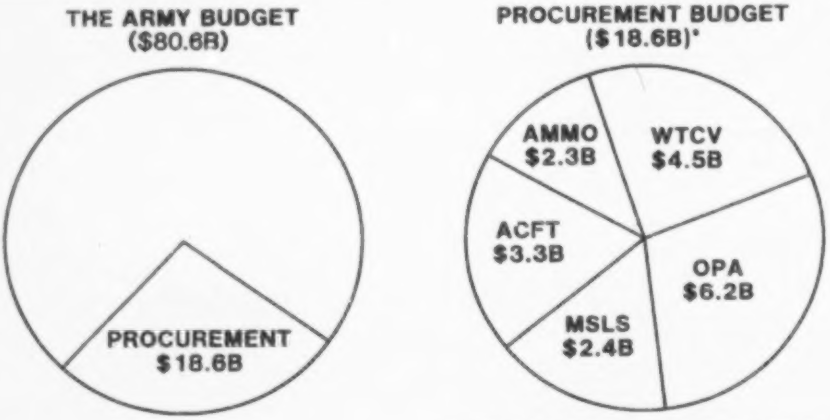
CHART 1

RDT&E OVERVIEW

This chart 1 breaks out in detail where we have placed our RDT&E dollars this year. As you can expect, the majority of it is in the tactical programs because that is the development of those systems with which we fight the main battles.

In our technology base and our advanced technology development, what we call 6.3 Alpha, we have about 27 percent of our total budget. That has been about normal. We have been running about that level over the years, to pull together the technology we need to later go into advanced development and full-scale engineering development of equipment.

FY87 PROCUREMENT BUDGET REQUEST



*DOES NOT REFLECT SUM OF COMPONENTS DUE TO ROUNDING.

CHART 2

PROCUREMENT OVERVIEW

This chart 2 breaks out our procurement budget into the various appropriations. If you consider each of these: Missile, aircraft, ammunition and weapons, and track combat vehicles, have had negative real growth this year, in fact considerable.

The only appropriation in which we have any real growth in is the Other Procurement, Army, and specifically in that area of OPA-2 or the command and control for our Army. We have a major deficiency there, so we have taken funds out of the other parts of our procurement budget in order to fully fund our mobile subscriber equipment and the other command and control equipment we need to perform the Army's missions.

FY 86 VS FY 87 PROCUREMENT REQUEST

($ IN BILLIONS)

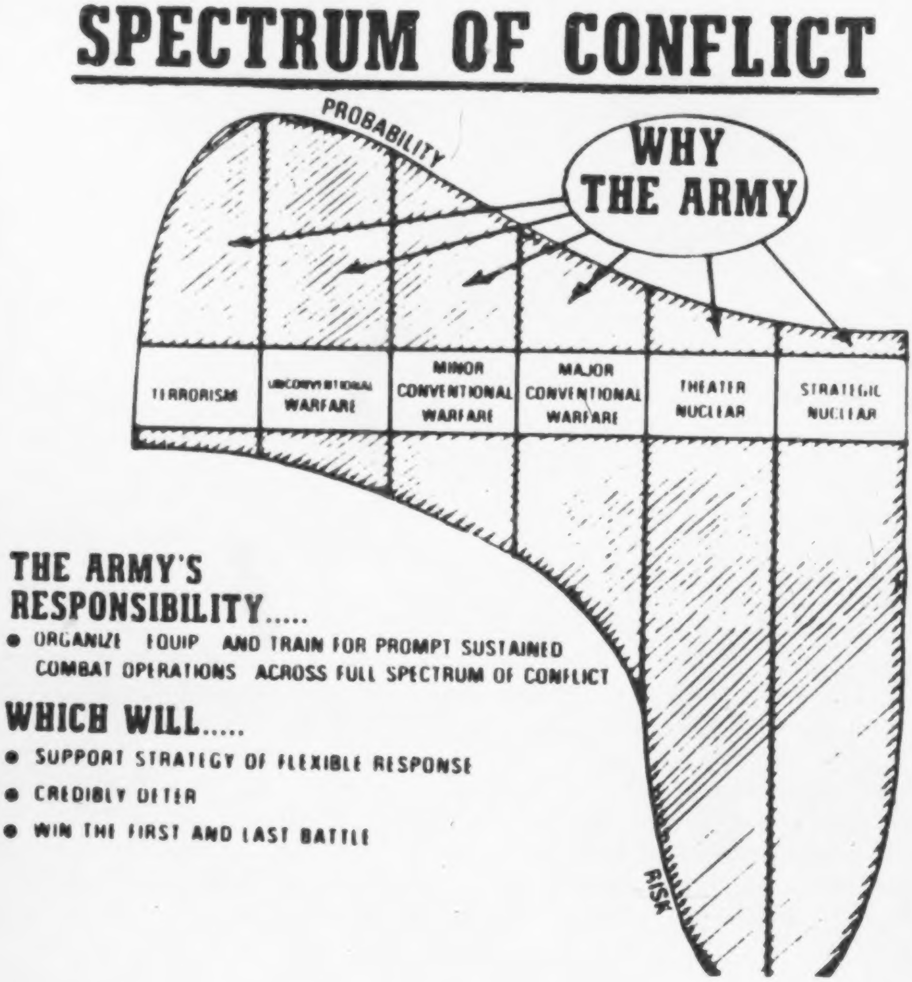
FY 86 PRESIDENT'S BUDGET REQUEST	$21.4B
FY 86 APPROPRIATED	$18.8B
FY 87 ESTIMATE IN FY 86 BUDGET REQUEST	$24.9B
FY 87 PRESIDENT'S BUDGET REQUEST	$18.6B

CHART 3

PROCUREMENT SUMMARY

This summarizes what Dr. Sculley mentioned to you. In our procurement request the key thing is that we have worked hard to slim it down this year because of the reductions in funds we have had. If we were to look at last year's Presidential submission where we came in with $21.4 billion, and came out with $18.8 billion, we indicated our 1987 procurement budget was going to be about $25 billion.

After the various scrubs and reductions, both in the Army and at DOD, we have ended up submitting a President's budget at $18.6 billion. With those dollars we have to do the best job we can to fund the programs we need to be able to perform the Army's mission.


PROBABILITY
WHY THE ARMY
TERRORISM
UNCONVENTIONAL WARFARE
MINOR CONVENTIONAL WARFARE
MAJOR CONVENTIONAL WARFARE
THEATER NUCLEAR
STRATEGIC NUCLEAR
RISK

SPECTRUM OF CONFLICT

THE ARMY'S RESPONSIBILITY.....

- ORGANIZE EQUIP AND TRAIN FOR PROMPT SUSTAINED COMBAT OPERATIONS ACROSS FULL SPECTRUM OF CONFLICT

WHICH WILL.....

- SUPPORT STRATEGY OF FLEXIBLE RESPONSE
- CREDIBLY DETER
- WIN THE FIRST AND LAST BATTLE

CHART 4

SPECTRUM OF CONFLICT

I do not have to tell you that that mission runs from terrorism on the low side to strategic nuclear war on the high side. The expensive part, being able to counter that threat, is on the high side, primarily our heavy divisions. That is where the majority of our procurement and R&D dollars are.

We are spending, we feel, sufficient dollars to counter strategic nuclear war on the high side and counterterrorism on the low side, but it is at the minimum acceptable level.

PRODUCTION OF GROUND FORCES MATERIEL USSR/NSWP AND NATO*

EQUIPMENT TYPE	1984	1984	
	USSR	NSWP	NATO
TANKS	3,200	450	1,760
OTHER ARMORED FIGHTING VEHICLES	3,800	1,200	2,230
TOWED FIELD ARTILLERY	1,600	250	425
SELF-PROPELLED FIELD ARTILLERY	1,000	300	240
MULTIPLE ROCKET LAUNCHERS	500	100	80
SELF-PROPELLED AA ARTILLERY	50	0	40
TOWED AA ARTILLERY		225	50

*REVISED TO REFLECT CURRENT TOTAL PRODUCTION INFORMATION. INCLUDES UNITED STATES: EXCLUDES FRANCE AND SPAIN. NSWP IS NON-SOVIET WARSAW PACT.

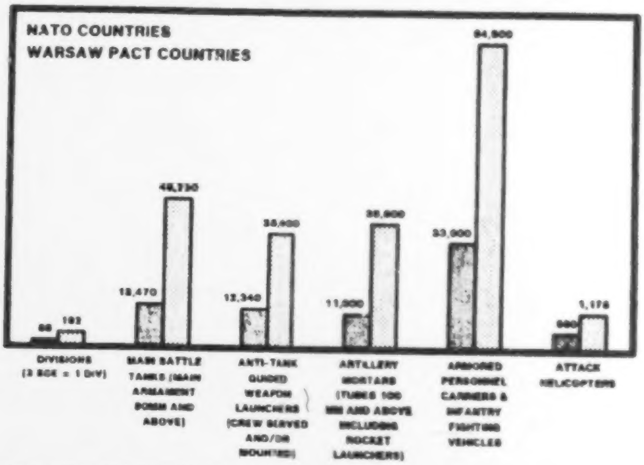
CHART 5

THREAT

I do not have to tell you much about the threat. The key thing is, as shown by this chart, Mr. Chairman, that we are outnumbered two or three to one in every major item in Europe today. That does not include France.

If you put in France, you add about 1,500 tanks and about 5,600 armored personnel carriers. It still would not significantly change the total number that we are outnumbered by the Soviet-Warsaw Pact forces in Central Europe to fight high-intensity battles.

NATO-WARSAW PACT GROUND FORCE COMPARISON (IN PLACE IN EUROPE-1984)[1]



NOTES: WARSAW PACT DIVISIONS NORMALLY CONSIST OF FEWER PERSONNEL THAN MANY NATO DIVISIONS BUT CONTAIN MORE TANKS AND ARTILLERY. THEREBY OBTAINING SIMILAR COMBAT POWER.

WARSAW PACT TOTALS EXCLUDE THE 17 STRATEGIC RESERVE DIVISIONS IN THE MOSCOW, VOLGA AND URAL MILITARY DISTRICTS.

[1] EXCLUDES FRANCE AND SPAIN.

CHART 6

THREAT PRODUCTION RATE

More worrisome to us, however, is the fact that their production rate in the Warsaw Pact far exceeds what we have in NATO. Those items they are producing in many cases are on a par with the equipment we are fielding today. They are modernizing their forces much quicker than we are in NATO.

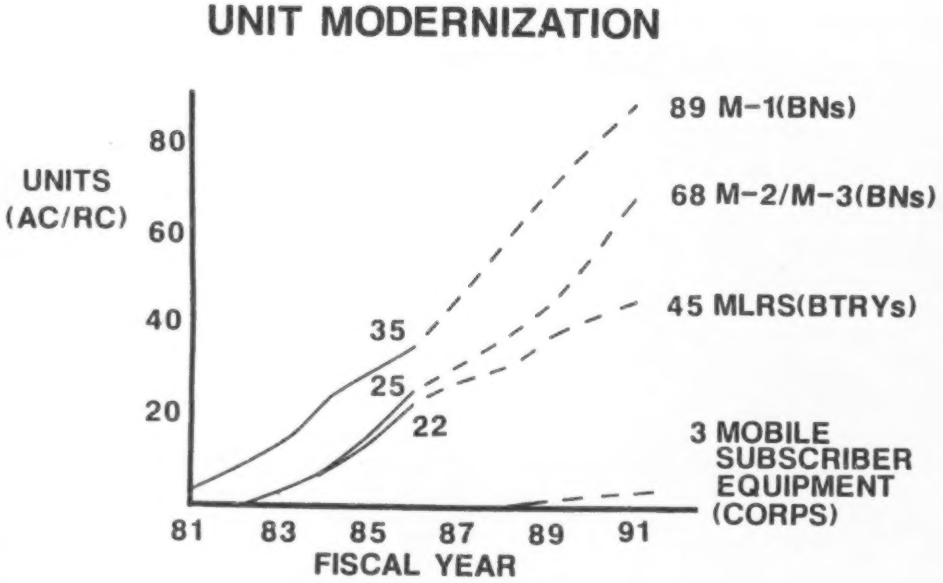


CHART 7

MODERNIZATION

However, as Dr. Sculley says, it has not been all bad. With the support we have had over here on the Hill, if you look at the end of 1986, we are going to have 35 battalions of M–1 tanks; we are going to have 34 companies of UH–60's. The greatest increase we have had in artillery fire is the multiple-launch rocket system [MLRS]. We will have 121 of MLRS batteries fielded at the end of 1986. We are just bringing in the AH–64 attack helicopter battalions.

If we continue to get the support we have had in recent years these are the numbers we will have by 1991. The year 1989 is when we will get delivery of equipment we are talking about today in the 1987 budget.

We have made a major change in the Army in the last several years in how we put together our programs and how we buy the equipment to outfit our forces. In the past, we did what we call budgeting by individual items. We started budgeting as closely as we can in unit sets about 2 yers ago.

In other words, it does me no good to field M–1 tanks if I do not field at the same time the trucks, the ammunition, and the diagnostic equipment. They cannot do their job on the battlefield. We are doing the best job we can to balance the budget along lines to buy unit sets.

When we issue a unit the field in Germany, the Army Materiel Command and trainers go out and issue them an entire set of equipment so that when they accept it, they are more effective on the battlefield.

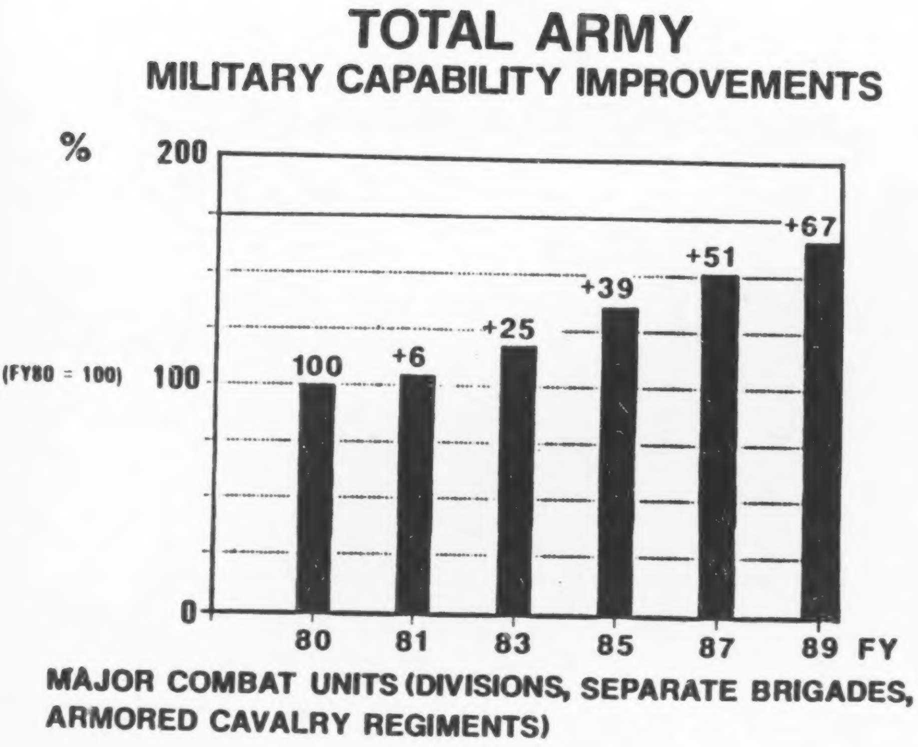


CHART 8

TOTAL ARMY MILITARY CAPABILITY IMPROVEMENT

What has that done for us? If we look at the capability of our major combat units, that is the divisions, separate brigades, and the armored cavalry regiments, you can see what their fighting ability was in 1980 as compared to today with new equipment versus the Warsaw Pact forces they would expect to fight.

There has been a significant improvement. For example, taking the start point as 1980 with a capability of 100, we have had in our total Army—this is both the reserves and in our active components—a 39-percent increase in warfighting capability against the enemy that we would meet on the battlefield at the end of fiscal year 1985.

If we took our Active Forces only, it is about 10 percent higher than that. We have tried to outfit both the Reserve and the Active as much as possible. If we continue to get your support in our 1987 budget, we will increase that about another 30 percent versus the Warsaw Pact threat in 1989 with the equipment that has been appropriated to us previously and what we are asking for this year.

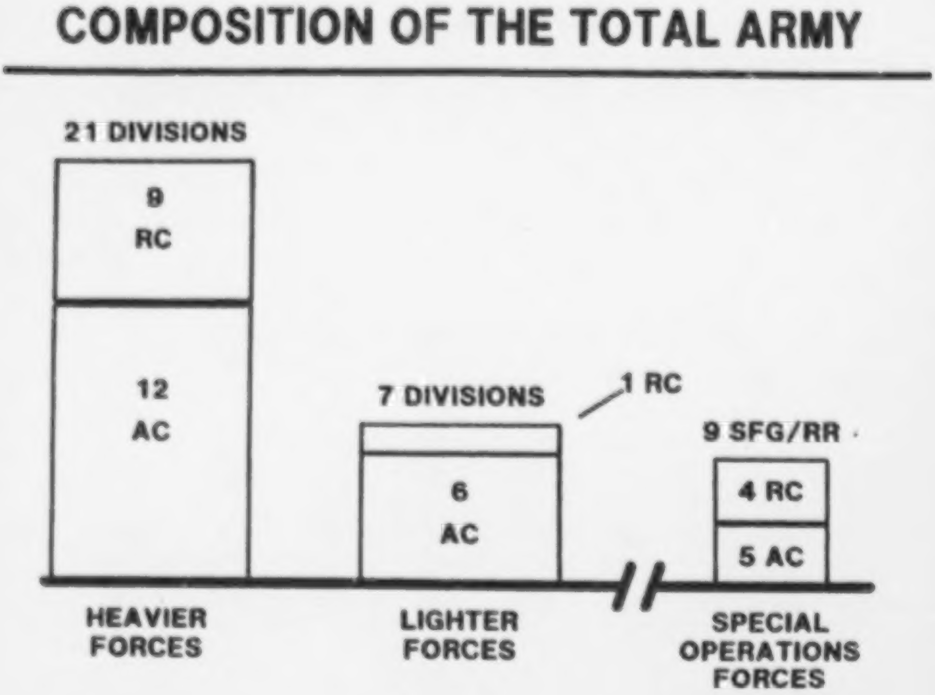


Chart 9

COMPOSITION OF THE TOTAL ARMY

This is that force that we are outfitting. You can see that a significant part of it is in the Reserve components [RC], both in our nine RC heavy divisions and the RC light division. You can see that the majority of our divisions, the heavy divisions, are, as I said, to fight that major war that the United States cannot afford to lose with major Warsaw Pact forces.

These are the light divisions. They are the 10,000-man light divisions first being organized.

Finally, when we put our program together we must look at how we are going to fight on the battlefield. We call it Airland battle. The reason we call it Airland battle is because the Army cannot normally fight alone. We fight as a team with the Air Force, the Navy, and the Marine Corps in most cases and normally with an ally.

As a result, we have to be able to coordinate with them. Then we look at our deficiencies. If you took one of our major deficiencies, you will find the corps commander who orchestrates this battle with the divisions under his command does not have the capability of really striking the enemy out to about [deleted] deep which he would like to do.

The reason he would like to do that is because if he can affect their timetable and upset them at that stage, they will not be able to arrive with overwhelming forces at the front lines. However, we have to remember that the frontline battle is the battle that will always determine the ultimate winner. It is not going to be won [deleted] deep.

So, many of our major procurements are in equipment to make sure we win the frontline. That is where the infantrymen and tankers meet eye to eye with the enemy. That is why we need the M-1 tank, the Bradley, AH-64 helicopter, and our air defense systems.

Finally, in our rear area we have to have the fusion capability for intelligence that we can get on the enemy and pass it to the corps commander. For them to do that, we have to have the capability of knowing what that enemy is doing.

JSTARS

We have a major program working jointly with the Air Force called JSTARS, which is a radar that will look out 150 kilometers deep, pass the information to this joint tactical fusion system so that the corps commander can then make a decision to attack them deep with a system that we are developing called Army TACMS.

That will not be fielded until [deleted]. We feel these systems will give the corps commander the capability of doing something he cannot do today. It is a combined synergistic effect of all of the systems in our programs that assure success on the battlefield.

That concludes my introduction and we are now prepared to answer questions, sir.

Senator STEVENS. Thank you very much.

There is only one thing missing. As we interpret your request, you have not funded the trucks that you mentioned, the 5-ton trucks that would go along with your tank. There is no request here.

I believe you are right about the unit price planning. Why did you leave out the trucks this year?

TRUCKS

General WAGNER. The 5-ton trucks were left out, sir, because we are in a competitive negotiation right now. They are checking out the engines, running a test for those. We will make a selection and then we will fund the multiyear contract with existing fiscal year 1985 and fiscal year 1986 funds.

It could be with the old producer, or it could be with the new producer. The truck that is fielded with the M-1 tanks, however, is the 10-ton truck, the HEMTT, and that is in the request.

Senator STEVENS. Thank you very much.

You have in here $155.7 million for the LHX helicopter development program. I understand you have decided, based on last year's reduction, to defer full-scale development until fiscal 1988 and that your 1987 budget request supports some R&D, wind tunnel simulation, preliminary air vehicle design.

Has this changed your unit cost for the LHX from last year?

LIGHT HELICOPTER FAMILY [LHX]

General WAGNER. For our unit cost in 1984 dollars, we are still shooting at about $4 million for the utility and $6 million for the SCAT version, with an average of $5.3 million.

Obviously, since we will be going into production a year or so later, the cost increase in that year will be equal to whatever the escalation is. We feel that the smart thing to do is to make sure that we have done all of the technology assessment before we go into full-scale development.

That will be a decision that we will make next year. We are not making it this year. What we are asking you for this year is $110 million on engine development and about $44 million plus in what we call our advanced rotorcraft technology integration program.

This particular program is to look at those long poles in the development to make sure that we have the technology that we need to move forward with this helicopter.

For example, we are looking at can we operate it with a single pilot because, if we can, we are going to have significant savings in our O&S cost. We want to make sure our automatic target recognition capability is ready to go into full-scale development.

There are a myriad of those things that we are looking at. I think it is important to do it right the first time. Many times on our helicopters in the past we have moved out, have gone into advanced development and full-scale development before we did the proper work in the technology base and up front to make sure we were ready to go.

Senator STEVENS. You are going to compete both the engine and air vehicle in the future; is that right?

General WAGNER. Yes, sir.

Senator STEVENS. Are you not vulnerable this year in terms of your R&D request if the Congress does develop the no-growth strategy?

We are looking at the budget figures now and it looks to me, as a matter of fact, that some of them are negative real growth. You sort of put all your eggs in the R&D bucket and it seems that you may be really vulnerable in terms of your programming because of the way you have allocated your money.

Am I wrong?

LHX BUDGET REQUEST

Dr. SCULLEY. No, sir, you are not. Again, I think it was a very carefully determined decision to attempt to finish with the 1987 request those development items that would give us the information to come back next year on the important decision of whether or not to enter a full-scale development. It was a conscious decision.

Some could say a lot of eggs in one basket, but again, I think it is timely in putting those moneys in the request. It was very carefully considered.

General WAGNER. The principal reason we did that, sir, is that there were a number of starts this year that drove up our R&D budget. For example, the Army tactical missile system is a new start.

ADVANCED ANTITANK WEAPON SYSTEM [AAWS-M]

We have also started our Advanced Antitank Weapon System-Medium [AAWS-M] for the light infantry to give them a capability that we do not have today with the Dragon missile. There were several new starts that gave us the growth we have in research and development.

BRADLEY FIGHTING VEHICLE [BFV]

Senator STEVENS. We are operating under limited time. That is the way we try to get more people here to participate and be interested in these programs. The GAO has faulted the testing on the Bradley vehicle and it stated that you used unrepresentative threat ammunition.

It seems to me that a lot of the criticism the Bradley fighting vehicle is receiving is because it is not a good tank. I think it is being compared to the tank. I understand that you have had some live fire testing, you have replaced fuel lines, you have fixed the fire suppression system, you have spall liners now, improved ammunition storage, and you have some improved armor.

What I would like to know is, what your judgment is about whether these upgrades for survivability are going to make the Bradley a fighting vehicle as it was originally planned within realizable cost limits?

That is the problem. We are getting now to the point where it is so much like a tank; we might as well build more tanks instead of more Bradleys.

Are we there yet?

General WAGNER. No, sir. I am a tanker. The Bradley was never designed to be a tank. It is an infantry fighting vehicle. As configured today, it is the best fighting vehicle in the world we know of, including those of the threat.

BRADLEY VULNERABILITY

It is not invulnerable. It was not designed that way. There were specific tradeoffs made when we designed it in weight, interior dimensions, et cetera, in order to put the number of infantrymen we desired inside to accommodate the amount of ammunition we want to carry, and to give it swim capability.

We could not put that in one package that would make it invulnerable. We had certain ammunition that we did not want to penetrate it. Basically, that was the heavy machine gun, because that is the weapon he would come up against the most. It passed all of those tests when we produced it. There have been changes since then.

First of all, we have made breakthroughs in our capability to make it more survivable today in terms of applique armor that is available. The enemy has changed the weapon system on his BMP fighting vehicle. We are looking at whether we can counter that threat which is the 30mm today.

Previously, we could stand off from him with our 25mm or our TOW and he could not bother us with his 73mm gun.

M-1 TANKS MULTIYEAR CONTRACTS

Senator STEVENS. While I am talking about tanks, I might go to one of my pet subjects, that is the rate of production of the M-1. Congress approved the multiyear contracts at a base rate of 720, an option to go to 840 if it was affordable within the budget.

You have indicated a desire to go to 840. Are you contractually locked in the 840 or do you still have the option for 720?

General WAGNER. We would have an option at 720.

Senator STEVENS. When Congress went up to 840, it was my memory your level of production was 720.

General WAGNER. That is right.

Senator STEVENS. What you are really indicating is to keep it at this higher level. Would you give us your figures for 720?

Our estimates are if we did that, if we stayed at 720, there would be a $200 or $250 million difference due to changes in the economic rate of production. It was 640, my memory says, and Congress ramped it up to 720 and then Congress ramped it up to 840.

I think some people in the Congress think that the M-1 tank is a jobs program and they keep on ramping these things up without regard to the equitable distribution of these moneys within the Army budget.

M1 TANK PRODUCTION LEVEL

I would like to see you able to complete that R&D and get the other items, the Bradley fighting vehicle, for instance, back on schedule and to get your other R&D programs completed so that you can get on the total schedule.

I do not see why we should maintain that 840 level. I guess what I am really asking is why did you not come in at 720 this year?

My friends here tell me that the Department pushed you up to 840. Is that a political decision? Is that right?

Maybe I ought to talk to the politicians.

General WAGNER. No, sir. We went forward with the amount of dollars we were given to put our program together. We could not afford 840, so we dropped it to 720.

When the Department of Defense looked at the savings they could make by going to 840 and the fact we would be able to field two more battalions a year at that rate, they made a decision it was smart not only from a business sense, but also smart from a warfighting capability to increase it.

They raised our TOA for our budget submission by the amount to take us up to 840.

Senator STEVENS. Why don't you put in the record at this point your justification on the cost savings and we will look at that?

General WAGNER. Yes, sir.

[The information follows:]

COMPARISON OF MULTIYEAR PRODUCTION RATE COST SAVINGS

The expected fiscal year 1987 savings of 840/year production versus 720/year are $99.0 million. Projected program savings for 2,459 tanks from 840 and 720 multiyear procurements versus a 600 single-year program are as follows:

[Dollars in millions]

Delta	840 MYP vs. 720 MYP	$327
Delta	840 MYP vs. 600 annual	1,465.4
Delta	720 MYP vs. 600 annual	1,139.4

GAO REPORT ON BRADLEY'S TESTING

Senator STEVENS. Senator Rudman.

Senator RUDMAN. Thank you, Mr. Chairman.

General Wagner, just to continue the discussion of the Bradley issue, there is going to be a GAO report that was requested by the Governmental Affairs Committee, as you well know. I have not seen a copy of the report, although some of the results of that report have been summarized for me.

I guess it is going to essentially say that they felt the Army conducted tests that were not realistic in the sense that there was some deliberate avoidance of impacting the vehicle with rounds in very sensitive areas. In fact, one of the test personnel made that allegation.

Senator STEVENS. How do you respond to that if that, in fact, is one of the charges? Is that essentially true?

General WAGNER. Primarily, sir, those tests were to determine what the unknowns were in the vulnerability of that vehicle. We know beyond a shadow of a doubt if you shoot it in certain areas, for example, if I hit the warhead of a TOW missile stored in it, hit the flight motor of a TOW missile, or hit a full-up box of HEI 22mm ammunition with a HEAT warhead, it will destroy the vehicle. There is no questions on that with an overkill weapon.

However, there were other shot lines that we knew we did not have sufficient battle damage information on. We shot around the complete vehicle in various configurations and with different penetrating rounds. We then put those results into an extensive modeling system to see if how we model the survivability of it makes sense.

BRADLEY SURVIVABILITY

We can shoot at the vehicles in a random fashion which the GAO, and also Colonel Burton, thinks might be better. However, if we destroy it on the first shot, we have collected no data to understand the overall approach to making that vehicle more survivable.

I guess it is really an argument between analysts as to which way is best to collect data. I might point out to you in the March to May tests we will shoot some random shots. We shot a 120mm tank round into the side of the Bradley last week and destroyed one. The amount of data collected was not too good.

I could have told you with the round we fired at it, in the position we fired, we probably would destroy it and we did.

BRADLEY DOCTRINE

Senator **Rudman**. It seems to me that much of the controversy about the Bradley comes from the doctrine that the Army originally announced for the Bradley.

Now, that fighting vehicle originally, as I recall the doctrine, and you can correct me if I am wrong, would accompany armor, keep up with it, and be able to deploy infantry forward of the forward edge of the battle area; it would travel with the armor. Is that correct?

General **Wagner**. When we say "it travels with the armor" the doctrine has not changed. If you go back as far as the early 1970's and look at how we fight with infantry and armor—when we say "travel," we mean travel on the same battlefield. It depends on the threat you are up against whether you move the Bradley with the tank or behind the tank, or, in some cases, you might move it ahead of the tank, if it is necessary.

BRADLEY THREAT

It depends on the threat out there. If you move into a heavy builtup defensive position where the enemy has a lot of antitank fire, you are not going to lead with Bradleys. In fact, you are not going to move with tanks.

What you are going to have to do is get on the flank of that position as far forward as you can by moving very rapidly with the best covered routes possible with your Bradley vehicle and dismount the infantry. They will have to dig out those antitank weapons.

Senator **Rudman**. This debate is really irrational in many ways because it seems to me, at least, the criticism of this vehicle is that in certain environments it can be destroyed.

General **Wagner**. That is right, sir.

Senator **Rudman**. I dare say that is true.

General **Wagner**. I agree 100 percent.

Senator **Rudman**. I also assume that the Army fully recognizes that if it should get, either intentionally or unintentionally, into an antiarmor environment, the helicopters and tanks cannot kill the antiweapons of certain types that the Soviets possess, and that we will lose some Bradleys.

General **Wagner**. That is true, sir. We do not have an invulnerable vehicle on the battlefield, including tanks.

Senator **Rudman**. As a matter of fact, the only thing that the Bradley really is invulnerable against—and nothing is invulnerable, but relatively invulnerable unless you hit munitions or fuel—is probably heavy machinegun fire; is that not correct?

General **Wagner**. Heavy machinegun fire, overhead artillery fire, and we are going to improve it to take care of the BMP automatic weapon and small hand-held heat rocket.

Senator **Rudman**. You are talking about overhead explosion?

General **Wagner**. Yes, sir. Not a direct hit. That will blow a tank away.

Senator RUDMAN. The Army has brought the problem on itself. I have been a supporter of the Bradley. It seems to me that one of the doctrines you ought to start talking about is that there are a number of scenarios in which the Bradley is not going to be deployed to a position of the forward edge of the battle area.

In fact, in many scenarios it is going to be used to bring the troops up at a high rate of speed behind the armor. They may travel on foot because they will be safer on foot, taking natural cover, defilade, whatever, concealment, than they would be in this vehicle.

General WAGNER. That is right.

Senator RUDMAN. I have been a strong critic of Viper and DIVAD and a number of other systems. It seems to me much of the criticism of this vehicle is being made by persons who never heard a shot fired in anger and do not understand what the vehicle is designed for.

I do not think you ought to come forth with a proposal that will add tremendous cost and tremendous weight unless you really think that the doctrine is going to allow it to move with the tanks.

I, frankly, have never understood that if you thought the tanks were moving in an antiarmor environment, how you could move the Bradleys with them.

General WAGNER. They will not move directly with them; no, sir.

Senator RUDMAN. I think the Army instead of responding point to point to this criticism ought to start talking doctrine to these critics and tell us what the Bradley is about. I understood it to be in an antiarmor environment where you are moving in desert areas or other areas where you do not have antiarmor weapons in the vicinity.

You surely are not going to have a Kasserine Pass kind of engagement in which Bradleys are going to be traveling in the open to be targets of even something as ancient as the 88mm that the Germans used in World War II; is that correct?

BRADLEY TESTING

General WAGNER. Yes, that is correct. In the two special hearings we have had on the Bradley, that has been the principal thing we have attempted to stress.

Quite obviously, we are always getting back into the arguments over the testing. That is what they are more interested in. However, you are right, and that is what we are trying to push, the doctrine and how do we fight.

Senator RUDMAN. What happens to the weight in terms of transportation?

General WAGNER. The applique armor and Kevlar that we propose to put on it, which, incidentally, we were working on this long before the testing started, if it will help the soldier to survive, will add about 6,000 pounds. We will make that the first priority.

We already have a vehicle about that weight limit on the same chassis in the Multiple Launch Rocket System [MLRS]. We propose to put the same final drive on this vehicle, gearing it down slightly to decrease the top speed by 2 miles an hour.

BRADLEY IMPROVEMENT

The important thing to the Bradley is dash speed from cover to cover and it will not decrease that. In fact, as we have increased the weight of the M1 as we went to the improved M1A1, we had to change the final drives and decrease the top speed about 2 miles an hour, but the dash speed is still the same.

Senator RUDMAN. What about transportability?

General WAGNER. It can still go in the same aircraft that it could go in before. We will have to remove that armor, sir. We understand that.

Senator RUDMAN. I hope the Army will consider how to respond to these things. I sometimes think to respond to the accusations is not necessarily the best way to respond.

General WAGNER. I agree, sir.

Senator RUDMAN. I think you have a case here for this vehicle. If anybody around this Congress thinks we are going to make tanks or helicopters or fighting vehicles that are not going to result in casualties in certain situations, then they are hoping for something that cannot happen.

I sometimes think around here that people want to wear oak leaf clusters on the number of weapon systems they can kill, whether they ought to be killed or not. I think there are a number we should kill, but this is not one of them.

I have one other question for you, and that is that I am a little confused by the ammunition base that we are trying to modernize. I have had some differences in some systems, but it seems to me that one valid criticism of the defense buildup is that we have not built up our war stocks of munitions.

AMMUNITION PRODUCTION BASE

That is not really modernization, but modernization is useless if you do not have anything to fire through the tubes.

What is the status of that right now?

General WAGNER. Sir, this year for our ammunition production base in the budget that we have forwarded we are asking for $354 million. The total ammunition procurement is about $2.3 billion. We feel that it is a balanced program. It will give us the amount that we need to fight most our contingency battles.

Obviously, when you get to a restricted budget, we balanced the amount of ammunition versus the vehicles we have out there and spare parts. We feel we have the right balance.

We can always use more ammunition. If we went to the CINC's today and asked them what they wanted, we would find they are looking at fighting today and tomorrow, and they would say they want more ammunition.

Senator RUDMAN. On the antiarmor master plan, as you get down to what we were trying to do to replace Viper—which we all agree was a very good, but very expensive bunker buster, cheap buster, call it what you want—I take it that you have now reached the conclusion that you are really not going to get an infantryman's weapon, an antiarmor weapon, a weapon of last resort, one that will have a frontal kill capability within the weight?

ADVANCED ANTITANK WEAPON SYSTEM-MEDIUM [AAWS-M]

General WAGNER. We have not reached that conclusion, sir, our Advanced Antitank Weapon System–Medium [AAWS–M] should have that capability. This is not of the Viper type. It can go up to a top weight of 45 pounds with a night sight. We believe we cannot take him frontally, but there are also other approaches.

For example, you can also fly a trajectory that you come in from the top. With this program we are going to go out with an RFP for a concept demonstration of 27 months. We would like to have three or four competitors come in with various ways of going about this.

We are going to fly them off and see which is the most effective in destroying antitank and then make a selection.

Senator RUDMAN. Institutionally, you have given up on the rather absurd idea that you had to have something that weighed less than 11 pounds?

General WAGNER. We need it for general purpose, but it will not take a tank frontally.

Senator RUDMAN. You have agreed on that?

General WAGNER. Yes.

Senator RUDMAN. Thank you, Mr Chairman.

Senator STEVENS. Senator Kasten.

NITROCELLULOSE

Senator KASTEN. I have one brief question having to do with nitrocellulose. Last year this committee directed the Army to complete a study that would cause them to operate a nitrocellulose line by April 1. This effort would give Wisconsin the opportunity to compete with our Canadian supplier as the second source.

My understanding is that they virtually are the only other supplier, they are the only supplier in the United States.

First of all, is that your understanding that we do not have other opportunties for production of nitrocellulose in the United States?

Second, could you brief the subcommittee and also me on the overall effort?

Dr. SCULLEY. I will be happy to do that, both personally and officially in responding to last year's language and agreement. It is not my understanding that it is the only source, but I will also provide that for the record.

Senator KASTEN. Fine. I do not expect you to be an expert on all the ins and outs of this particular item. It is something that is important to us.

I would like to make sure the study is on track and, second, that we are briefed and aware of the conclusions and anything we ought to be doing in this committee along this line.

[The information follows:]

BADGER AAP

The study on the cost/benefits of operating a nitrocellulose NC line at Badger Army ammunition plant as a second source was transmitted to Congress on March 27, 1986. The report indicates there are currently two active production sites for NC. One is the Government-owned Radford Army ammunition plant in Radford, VA, and the other is a totally commercial facility located in Parlin, NJ.

Senator KASTEN. Mr. Chairman, I have a couple of other questions I would like to submit for the record.

Senator STEVENS. Thank you very much, Senator.

I hope you are listening to Senator Rudman in terms of this Bradley fighting vehicle, gentlemen.

I wonder what can we do to make certain that the Congress understands the role, the limited role, of the Bradley in terms of battlefield conditions.

Do you think we have properly defined the area of its use?

BRADLEY'S ROLE

General WAGNER. Sir, we have defined the area of its use. We know how to use it. If you go out to the National Training Center at Fort Irwin, CA, where we fight as much like real war as possible with what we call an enemy operational force which is trained in Soviet tank tactics and operate at the same speed, you will find that the unit that fights with the Bradley wins; the unit that fights with the current system, the M113 does not normally win.

Senator STEVENS. What can the Bradley do in a battlefield circumstance.

General WAGNER. First of all, sir, it has great agility; it can move much quicker from one spot to the other to make it more survivable for the crew. The important thing that it provides on the battlefield today is the fire power.

The Bradley mounts the TOW missile, so that when it gets in a position where it can stand off at long ranges and destroy enemy tanks, it has that capability.

Senator STEVENS. The M113 has the TOW also, doesn't it?

General WAGNER. Yes, sir, but the M113 improved TOW vehicle cannot move with the agility on the battlefield that the Bradley does.

Also it is a very vulnerable vehicle in that it has to sit in defilade, raise up to its harmmerhead, and shoot. It is a single-purpose weapon. It is called the ITV, or the improved TOW vehicle. It is good for its purpose, but it is only used for tank killing.

The Bradley cannot only kill tank targets, but with its 25mm cannon it gives close support to the infantry inside when they dismount.

Senator STEVENS. You are making it sound like you are really talking about the Bradley as being in the tank area again.

If it is in the tank area, it is not invulnerable to tank ammunition itself, is it?

General WAGNER. Sir, it will be in the tank area, but when it is in that tank area and there is heavy antitank fire, then it has to move from defilade position to defilade position to give itself protection of the terrain.

Senator STEVENS. That is what the M113 does.

THE M113 TANK

General WAGNER. When it does that, it does not keep up with the tank. It does carry infantrymen to dismount points, but it does not have the 25mm stabilized cannon that you have on the Bradley to support dismounted infantry.

In the past, the way the infantry used a M113 was to come up behind a hill, or as close as they could, and dismount. Then your M113's would normally back off and wait until the infantry needed to be picked up. It was essentially a taxi.

The reason they did that was because the 50-caliber machinegun on the M113 was not accurate enough to fire very close to the infantry. With the 25mm cannon you have on the Bradley today, your base of fire for the infantry squad is the Bradley itself.

So, it moves as your infantry dismounted squad moves to provide close fire support. It has made that squad much more effective than it ever was before in fighting by fire and maneuver on the battlefield. It has taken time to train the infantrymen to do this. It took time to train the squad leader that he now has a base of fire he never had before.

It can fire very close to him and help him on that battlefield. As a fighting vehicle, it is part of that squad, where the M113 is a taxi.

BRADLEY VERSUS M113

Senator STEVENS. What is really the difference in the mobility between the Bradley and the A-3, the improved M113?

General WAGNER. Very close as far as top speed when you are going down a road. It is when you get in extremely rough terrain, and so forth, with the longer suspension travel that you have on the Bradley that it can dash faster than the M113A3. If you want a flat-out race on a race track, it would be very close.

Senator STEVENS. The reason for the Bradley is the speed?

General WAGNER. That is one of the reasons. The key is that it is a fighting vehicle with the weapon systems to give you the additional fire power you need on the battlefield that you do not have on the M113.

If we put those items on the M113, with the additional weight, then you would not have that speed that you have today with the M113A3 with little fire power.

Senator STEVENS. Gentlemen, I do not think anyone wants to be more supportive of the Army's role in this area than I do. I have to tell you that the Bradley is an awfully expensive vehicle just to be a shadow tank.

I am hearing that it will not be used as a personnel vehicle, but as a shadow tank. If that is what it is for, it is awfully expensive.

General WAGNER. Sir, it is a fighting vehicle. That is the key difference between it and a M113. It fights as a team on the battlefield with the tank. When the tank is assaulting and it needs overwatching fire to support it, the Bradley can give it that overwatching fire.

If it is necessary to get the infantry up rapidly, it can move it up rapidly. While it is doing that, it can fire on the move when it moves from position to position very accurately so that helps in its survivability.

It is not a tank. If you fight it that way, you are going to lose it, but it is a teammate of that tank on the battlefield.

BRADLEY FUNDING REQUEST

Senator STEVENS. How much have you budgeted for these modernization and survivability upgrades?

We estimate it will be about $75,000 a vehicle.

General WAGNER. That is ballpark, sir. We do not know exactly because we will decide the total number of improvements we want to put on it after the testing that is going on right now, which will be finished in the summer.

We have budgeted about $81,000 in the 1987 budget per vehicle to put those modifications on. It is our intention, when the testing is finished and we have determined what the improvements will be on the Bradley, to come back and brief the committees and tell them exactly what we have decided to do and the final bottom line cost on it.

PLANNED UPGRADES

Senator STEVENS. How many upgrades do you plan to do?

I assume you would have to run them all back through and get it; is that right?

General WAGNER. We have not made that decision on how many we will retrofit, sir. There is no question we will not retrofit those that are in the training base. There is no necessity to retrofit those.

We would retrofit those that will be in units that will be forward deployed in Europe, those that will be deployed with their vehicles and those in POMCUS. We will be cutting into the production line in 1988.

Senator STEVENS. This budget seeks only $39 million for advanced procurement for the 1988 production of the last 78 AH–64's.

Does that mean you are going to end production with the 675 units?

Dr. SCULLEY. The answer is yes, that is the Army program, Mr. Chairman.

AQUILA TESTING

Senator STEVENS. You suspended the Aquila RPV testing last September when that system failed to meet some of its design specification. We deferred production pending satisfactory completion of the developmental testing.

Have you reviewed the results of the demonstration test to determine whether or not that system reliability will meet your specification?

Dr. SCULLEY. We have reviewed that and with the results at this point in time in the testing paid for by the contractor, Lockheed Aerospace, we feel they have met the commitment and we should at this time proceed into developmental testing.

If, in fact, the objectives are not met in developmental testing at that time, another decision will be made.

On the other hand, if they meet the requirements of the system at that time, then we would expect to proceed.

Senator STEVENS. You are requesting $91.9 million for R&D in 1987. That is $75.4 million more than was projected for 1987 last year.

Are you that confident now of the probable success rate for this developmental testing?

It has been going on now since 1982, I understand.

AQUILA DEVELOPMENT TESTING

Dr. SCULLEY. That is correct. Neither I personally nor the Army in general is proud of the developmental history in this program, but taking a hard look at where we were and what we asked Lockheed to do and, as I mentioned, a company-funded demo, considering alternatives available, it was the consensus at the highest levels of the Army that we should proceed into developmental testing at this point.

We will know more of those results in the May time frame of this year.

General WAGNER. That requested funding is a combination, sir, of FLIR, forward looking infrared night capability, and also some more work on the ground link to it, as well as the air vehicle itself.

When we looked at this program, we said we are not going forward if it cannot designate for the artillery and accurately locate for the artillery. That is the reason that Lockheed ran a major test during January at their expense to see if they could do those things it could not do in earlier tasks.

We found they were very successful in improving it; it was recovered in the net which we had problems on previously. It was able to lock on targets. We fired nine Copperheads with it, hit four moving targets, four stationary targets, missed one because of a defective round.

Senator STEVENS. My staff tells me that you have limited this to 4 battery sets with 84 air vehicles and only 2 corps. It will be a very limited deployment even if successful.

If that is right, it would seem that you must be considering other systems?

General WAGNER. Sir, that is what is in this President's budget. That is not the number that we are planning and is not the number you will find us coming forward with if we are successful with this program.

It will take nine batteries which we had planned before. We ran this test in December and January because of the problems we had with it. At that time the Department of Defense made the decision to leave it at four and see how successful we are in our testing. They said, "If you are successful in your testing, come back with your 5-year program and lay out what you want." That is what we are working on right now and that will be about nine batteries.

5-YEAR PROGRAM

Senator STEVENS. That will be the next 5-year program?

General WAGNER. The one we are working on right now will be shown in the next President's budget, yes, sir.

Senator STEVENS. It is not in there now?

General WAGNER. No, sir. We had that, as you know, in the past. We had more batteries in. When we had a problem with it, the amount of the dollars that were put in would only have bought four batteries. There is no question we need more than that. That is what we are programming for.

One thing on it, sir, is that I think it is important to understand that the Army when it went through this demonstration with Lockheed said either you pass or you fail. If you fail, we are going to get out right here before we go any farther.

They passed that test, so we are now into what we call developmental testing. As of yesterday, we had flown 15 flights and every one of them has been successful. If you took all of them and averaged them, they are well over 2 hours per flight.

So, we are achieving the time we need. This test, to some extent, is an extension of the Lockheed demonstration, but it is being done entirely by the Army and it is much more comprehensive. If we pass that test successfully, we will go on into training and then our final operational test before production.

If we fail, we are going to get out right there. We have an agreement with Lockheed we can get out there at minimum termination cost. If we fail at the end of the collective training, we will get out.

AQUILA BUDGET REQUEST

In the 1987 budget there is $117 million to start production. However, that is completely dependent on how well we do in operational testing which, incidentally, will be overwatched by the Department of Defense.

After that is completed, we will go into our normal Army systems and defense systems acquisition review committees to make a decision. We will have to come back and tell you, the Congress, how we came out on that test.

Senator STEVENS. All I am pointing to, General, is if we run into these budget crunches, it would seem to be a fairly proper decision to recognize that these decision points are fairly late, in fact, they are going over into the next fiscal year, as I read them.

I should think that you ought to take a look and tell us how much of this could be slipped into 1988 and not harm your program. We are looking for places to apply some of these reductions that the budget is mandating. They are going to push it into a corner here and I think this is one of them.

Another is the SINCGAR's. We have some real questions about that request, $204 million for continued production while the National Guard is planning on using $55.6 million of its fiscal year 1986 procurement added by Congress for SINCGAR's. It looks to us that this $55.6 million is sufficient funding to continue production into the fiscal year 1987 to see what happens to that program.

I also understand that you have some technical problems in that program?

SINCGARS

General WAGNER. There have been some technical problems in production, that is absolutely right, sir.

The Under Secretary of the Army and teams from the Army Materiel Command have been working on this very hard. In fact, they are due back to him within about 3 weeks to give a layout of where they stand now.

The major problem we run into is if we take out the dollars right now, we lose the option in the contract that we won in full competition. We will have to reopen that contract and we feel that it will cost us a lot more to get the numbers we need in the future.

If they cannot produce, there is no question, we would have to stop this program and look at another solution. If they can produce, we ought to go ahead with this contract with the good option that we have which has already been negotiated.

Senator STEVENS. Again, we will have to take a look and see whether some of this reduction that is going to be required of us ought to be placed on a program such as this. It is already behind schedule.

I understand the contractor has now asked for reduction in reliability standards.

Dr. SCULLEY. That is correct. That is completely unacceptable to the Army. It is on contract on a fixed-price basis to deliver a radio that has a mean time between failures of 1,250 hours. We fully intend to hold them to the letter of the contract.

Senator STEVENS. That is good.

I would like to provide you with money so that you have that in your back pocket on a contingent basis to continue that bickering. However, I do not believe that we have the luxury this year.

Dr. SCULLEY. I understand, Mr. Chairman. We will work with you and the committee on that.

Certainly if they do not meet the letter of the contract to include schedule, the Army will negotiate in no uncertain terms for consideration due us because of their not meeting previously agreed-to contract scheduling and contract performance.

Senator STEVENS. What if we tried to fence you a contingency pocket and put several things in it and leave it to you to pull the best one in 1987 out of the pocket and go ahead?

It looks to me that you have several programs with real contingencies on them and you have a good chance to have production at an efficient rate if you can get some of the bugs out of one or more of them.

Dr. SCULLEY. I think those items are always workable. I just add along the lines of General Wagner that we should not be so constrained that we would lose what I feel are very advantageous provisions previously negotiated by the Department of the Army.

Senator STEVENS. I understand that. That advantage may be lost just because of the problems related to development, too.

We will work with you. I have in my mind a concept of trying to get some of these items in an area where we have more discretion to proceed with the ones you can get at the best possible rate and leave the other ones for consideration next year. Just ship them over, or at least part of them. We will work with you on that.

AIR DEFENSE COMMAND AND CONTROL

The last area that I have any questions on would be the air defense command and control segment. I know that is critical. We all know it is critical to you after the DIVAD termination.

You have asked for $122.2 million for R&D in this area. GAO has advised us that you canceled the request for proposals of the new Air Defense Command and Control Program.

Now, that sort of leaves us with a basic question: How are you going to use the $122 million you requested if you canceled the proposals for new requests?

General WAGNER. Sir, the request for proposal was not canceled; it was withdrawn. What we are doing is putting together a stand-alone change to it because it has been out for so many years, unfortunately, that it has gotten about this high in number of pages.

In fact, there was a major review of this program yesterday with the Under Secretary of the Army. The request for proposal has been rewritten. There are still some modifications that are being made. We hope to get that out on the street within about 4 weeks so that we can go ahead and get this program into development.

This is a software-driven program. What we are going to concentrate on is the development of the software to put together a division set so that we can test to make sure what it does for us on the battlefield. Then we will use the common type of computer hardware that we plan on putting in in the majority of our systems in the 1988–89 time frame to put this in the hands of all our divisions.

SOFTWARE PROBLEM

Senator STEVENS. I think you ought to give us the schedule for that activity. We are particularly concerned with the software problem. Again, it is a question of whether this is not an item that, by its own inertia, is going to carry over into the next fiscal year because of your new tactics.

It is not a question of lack of support, it is just a question of being able to develop workable software within the time frame that you have.

The opponents have talked about this for over a year. One article said it has been termed a disaster by OSD and Army officials alike.

You are trying to resurrect it, I am sure, because of DIVAD; is that right?

General WAGNER. The problem we had with this one over a long period of time was the determination whether we did or did not need a sensor.

In other words, a sensor to find out where those aircraft were, to pass this information into the system so that it then can cue the air defense systems on the battlefield to engage it. We have run study after study on that and, finally, after the DIVAD was killed, we probably had the most comprehensive look at the total forward area air defense that we have ever had in the history of the Army.

The bottom line of that study was that if you want to have effective air defense in the forward area, you have to have first a command and control system, but you have to change the name of it. It is not just command and control, it is also intelligence because we need to know where they are.

The program we are putting together will have ground sensors and will have airborne sensors to collect the data we need to pass through this system to then cue the air defense systems on the battlefield.

I believe we do have the operational concept under control now and are ready to go out and start developing it. It is really the backbone of the whole system. If you do not have this, you really are not going to be able to use effectively the various systems on the battlefield to destroy both the enemy fixed-wing aviation and his hovering helicopters.

COMMAND AND CONTROL BUDGET

Senator STEVENS. I hear you. I talked to the Secretary about it personally. The real problem I have in looking at your budget is that there is a lot of money in here that by virtue of things that are beyond your control and ours, IS going to shift over into the 1988 area in any event.

I think we need some greater help in identifying those and getting agreement on them and taking them into account. As I say, if you need a discretionary area, if some of them really have the breakthroughs that we know you hope for and you can utilize those breakthroughs for the great advantage of moving forward under some of the contract options you already have, I think we ought to work that out.

I would hate to leave the money in some of these areas and take the cuts in some of the systems that are already in production and have some cost-saving options.

I think we ought to really explore the possibility of some alternatives with you for utilization of the money rather than locking it down and keeping you into a rigid mode of production that you are not able to take advantage of some of these contract options you have.

I am going to work with you on that. Particularly this command and control segment of your budget is probably, after DIVAD, the most important area to give you some discretion to let you move forward quickly if you can really demonstrate that you have the breakthroughs you need.

General WAGNER. We will be glad to work with you and your staff.

Senator STEVENS. Thank you very much.

Senator D'Amato.

Senator D'AMATO. Thank you, Mr. Chairman.

First, it is good to see Dr. Sculley. I appreciate his cooperation.

PREPARED STATEMENT

Mr. Chairman, I would ask to submit my statement in the record as if read in its entirety. Then I have two quick questions, if I might.

Senator STEVENS. I am very please to do that

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I thank Dr. Jay Sculley, Assistant Secretary of the Army for Research, Development, and Acquisition, a man with whom I have worked closely, and Lieutenant General Wagner for appearing before this committee today.

I commend both these men on the fine work they have accomplished in modernizing our Army. The Army's request for procurement and research, development, testing, and evaluation for fiscal year 1987 is $24.2 billion. The President's request for overall defense spending calls for an 8-percent increase over fiscal year 1986 levels. I am worried, however, that budget constraints forced upon us by the Gramm-Rudman-Hollings deficit-reduction legislation will delay or endanger Army modernization.

The Soviet Union and the Warsaw Pact forces have a significant quantitative edge over United States and NATO forces. In many key areas, the Warsaw Pact holds a 2-to-1, or even 3-to-1 advantage over NATO conventional forces. This is a formidable challenge to our Army strategists. Major advances in our ground warfare equipment somewhat offset this imbalance. The M1 tank, Apache and Cobra attack helicopters, antitank weapons, advanced command, control, and communiction equipment, and other improvements have increased our deterrence factors.

I commend the intraservice cooperation on the Joint Surveillance and Target Attack Radar System [JSTARS] Program. This effort, which will enable our forces to have wide area surveillance of the battlefield, will enhance our command, control, and communications needs. I urge the Army and the Air Force to proceed expeditiously on this vital program.

The President's blue ribbon Commission on Defense Management has released an interim report which offers recommendations on control and supervision of the entire acquisition system and the waste and delays in the development of new defense goods. I urge the Army to follow the report's recommendations and to continue to improve the Army's acquisition process.

I look forward to working with you on funding levels for the Army's modernization effort as the budget process moves forward.

Thank you, Mr. Chairman.

ADVANCED ANTITANK WEAPON SYSTEM-MEDIUM

Senator D'AMATO. What are the Army's plans for light antitank weapons for the newly created light infantry divisions?

There seems to be some question whether or not that should not be undertaken.

Dr. SCULLEY. With your permission, I will have General Wagner answer that.

General WAGNER. Yes, sir. We are developing what we call the Advanced Anti-Tank Weapon System–Medium [AAWS–M], which will be a replacement for the Dragon missile that we have today. It will have a range of about [deleted]. It will weigh 45 pounds maximum.

What we are going to do on this, because there has been a lot of argument over the capability of penetrating the threat with a weapon of this size, is to go out and have concept demonstrations of the capability to do this with various technologies.

We have gone both to our own laboratories, but beyond that, to the Department of Energy laboratories where they have analyzed the threat, they have looked at the various technologies and believe very strongly that we can defeat that threat with a weapon in that category.

This will be a 27-month concept demonstration. Then we will make a selection and go into full-scale development of this weapon.

Senator D'AMATO. When are you contemplating that selection, beginning that process?

General WAGNER. We will start the program this spring with our request for proposal [RFP]. Then we will be cranking up in the late summer to get this program started. The RFP is completed now and we are ready to go on the street with it.

STINGER

Senator D'AMATO. I understand there is an effort to use ground-to-air Stinger missiles as air-to-air missiles.

Is that true?

General WAGNER. Yes, sir.

Senator D'AMATO. Why would you mount Stingers on helicopters instead of using Sidewinders?

General WAGNER. Primarily weight, sir. The ones we are buying this year will be going on our Scout helicopters. We want to hold that weight down.

The air-to-air system, which includes two missiles, weighs 170 pounds. It provides a sufficient range to defeat the existing threat. It is really a defensive system. It has been proven very effective in the ground clutter where that helicopter operates.

There are some problems with other type missiles on helicopters. As we go into the 1990's, it is not inconceivable that we may be looking for an improved weapon, but we know today that Stinger is probably about the best one we can hang on a helicopter.

Senator D'AMATO. When you say 170 pounds, is that 170 pounds as compared to the Sidewinder?

General WAGNER. I will have to provide that for the record. I cannot remember the weight of the Sidewinder.

Senator D'AMATO. Thank you very much.

[The information follows:]

AIR-TO-AIR STINGER

The Sidewinder missile used on the USMC Cobra weighs 191 pounds compared to a Stinger missile weight of 29 pounds. The total system weight of the air-to-air system which includes the sight, launcher, hardpoints, interface electronics, and two missiles is 644 pounds for the USMC Cobra Sidewinder system and 170 pounds for the Army OH-58 Stinger system.

M1 TANK RAND STUDY

Senator STEVENS. Thank you, Senator.

Senator Sasser.

Senator SASSER. Thank you, Mr. Chairman.

Dr. Sculley, in the Defense News recently there was an article stating that the Rand Corp. was studying the logistical problems of new Army weapon systems like the M1 tank. The article implied that the current new weapon systems created greater logistical problems than the older ones and that the new weapon systems were more complicated to repair.

Now, the claim is often made when we hear testimony here in this committee that the newer and more expensive weapon systems actually require less maintenance.

Can you comment on the Rand study and on the ease or complication of repairing the new systems, also the logistical problems of the new system?

Dr. SCULLEY. I will be prepared to comment on the subject in general, Senator Sasser, although I must confess I have not yet read the specific Rand study in this area.

I will tell you that the M1 tank, as good as it is, is a demanding weapon system in fuel and track.

Senator SASSER. How much more fuel than the old one? Does it burn about 100 percent more fuel than the old one?

General WAGNER. It depends on where you are running. I am a tanker. If you are running in dry terrain, you use about 50 percent more. If I get into very heavy mud where it is running inefficiently, it may go up twice as much.

The engine is twice as powerful. It is 1,500 horsepower as opposed to the 750 that we have on the old tank. I am very familiar with the M1 because I fielded the M1s as commander at Fort Knox.

It has maintained an availability rate in the field higher than any tank that we have ever had in the past. For the crew to operate, it is much simpler because it has built-in diagnostics for them to look at and see when you have problems.

For the mechanic at the rear echelons, because of the electronics, and so forth, it is not simpler to maintainand it takes more training for them to do it. Because we can make the fixes very quickly up forward, we have been able to keep it much more available than in the past.

We designed this tank in the 1970's. If we knew then what we know today about built-in diagnostics, we could make it even simpler today. As we go to follow-on systems, we are going to put in built-in test equipment which is much simpler.

Today it takes a lot of test equipment for the mechanic to test it. So, it takes him longer. We did not know in those days about having one master plug-in, using master cables, and so forth, in the system so that we could get immediate readout. So, we have to have boxes of these cables today.

M1 TANK CAPABILITY

As far as the capability of keeping it operational on the battlefield, we do much better today than we ever did with a vehicle in the past. The troops in the field would not trade it on a bet for anything they have ever had.

Dr. SCULLEY. If I may be permitted to add, the whole subject of logistics, reduced operational and maintenance cost, are really on the front burner in the Army. In the past 2 years I have commissioned, I think, two key studies of our Army Science Board on the subject.

We have a policy in the Army that rather than our program managers focusing on production improvement programs, that attention to reliability, availability, and maintainability be their top priorities in any of our programs.

We share your concern, but I think we are aggressively moving to reduce what we call O&M costs on the system.

Senator SASSER. I am not contesting whether or not we should or should not go with the M1 tank. That decision has been made. I am persuaded that this is a tank that does have superior capability to the tank that it replaces.

My overall question is this: As we move to these newer weapon systems, are they, indeed, creating more logistical problems?

Are they, indeed, more difficult to maintain or are they less expensive to maintain, and is there an ease of maintenance about them that we do not have with the older systems?

Dr. SCULLEY. I really feel that the trend is toward more reliable, easier to maintain systems for any number of reasons, reliability in quality.

Just a few moments ago we discussed the SINCGAR's radio where we are demanding in our contract mean time between failure orders of magnitude above what we have in today's radio.

The ground rules for the light helicopter experimental development, where we will cut the crew size in half or a single seat will have operation and maintenance hours to fly that aircraft cut in half over today's fleet.

So, I really feel that we are quite conscious of the problems of an O&M bow wave and are moving to manage it with systems that do not fail, that do have that built in as specified in the contract that we negotiate with our supplier.

General WAGNER. The parts themselves, sir, in some cases as they become more sophisticated to repair can be more expensive. We want to get that down by commonality of parts.

The key saving for the Army, however, is also if we can cut the number of people it takes to maintain it. So, we look very hard at can we cut the number of people down and go to commonality of components or higher reliability to cut down the overall cost?

For example, when we go to a future family of armor vehicles, which we will do someday, in an evolutionary fashion, we are looking at having common components across the board as far as possible in tanks, in self-propelled artillery, and in fighting vehicles to cut down on those costs.

That means that we have to keep a smaller number of them in our inventory.

What Dr. Sculley said on putting the additional reliability in, if we can double that reliability without doubling the cost and put a lesser number in the spare parts line all the way back to the States, we can save a lot of money. For every product improvement that a PM comes in for on his system today, he must bring in along with it a matching product improvement that reduces O&M cost or we do not talk to him about the capability improvement.

In the past they always wanted to shoot farther and to shoot faster. We also said you finance that by reducing your O&S cost. That is a policy now and the Vice Chief has been holding firm to that.

The first one we are working on in that regard is the M1 tank.

Senator SASSER. It is my understanding, General Wagner, that the 7th Infantry Division is scheduled to be equipped with the M9 armored combat earthmover [ACE] this month.

Is that an accurate statement?

ARMORED COMBAT EARTHMOVER [ACE]

General WAGNER. Yes, sir. Our light divisions and our heavy divisions will be equipped with the M9 armored combat earthmover.

Senator SASSER. Do you know what the total number of the M9's to be procured is?

General WAGNER. Yes, sir; it is 21 this year.

Dr. SCULLEY. A total of 580 vehicles, Senator Sasser.

Senator SASSER. One final question.

The Army has again grounded the Black Hawk helicopter and has grounded the Apache as well.

Are there, in your judgment, serious flaws in this system that poses a threat to the crews or a flaw that might prevent timely deployment of these helicopter systems?

General WAGNER. No, sir, we do not believe there is. They have both proven to be the safest helicopters we have ever had.

However, I would point out right up front when we have an accident today that takes a life, if there is any question that there may be a problem that could apply to another helicopter, we ground the fleet. We would not necessarily do that in wartime.

For example, the bolt that broke on the AH-64, the Apache, while it was hovering on the ground, is a serial number item, had been checked completely metallurgically. While we are rechecking that to figure out why it broke so soon, we grounded the fleet.

We feel if we had to go to war, we would. The reason we grounded the Black Hawk is because if there is any chance that there is a deficiency—and, incidentally, it did have a new spindle correction in it that we had put in after a previous accident—we want to find out.

We are very unfortunate in this accident because the crew was killed. We were fortunate, however, that the aircraft did not burn. So, we feel that we are going to be able to find out very rapidly if it is a single incident or if it is something we need to modify on those aircraft.

As far as their safety record, they are the best we have ever had.

REPLACEMENT OF DIVAD

Senator SASSER. Dr. Sculley and General Wagner, with the cancellation of the DIVAD, the Army needs close air defense systems to meet the threat, I assume.

Is the Army going to get a whole new air defense system?

Are you looking at an off-the-shelf product to replace the DIVAD?

General WAGNER. We are looking at a combination, sir. The Army conducted a major study after the Sergeant York program was stopped as to how do we counter that forward area air defense threat on the battlefield. There is no way that one system is going to do it. It must be a combination of systems to do it.

First of all, your threat is a fixed wing coming in above ground clutter. He is really easier to take in most cases than the hovering helicopter that stands off back here, pops up, and shoots at you. The Soviets have learned from us on how to use their antitank helicopters and are developing that technique. Our total program is made up of several parts.

First of all, we have to have a command, control, and intelligence system. That is in this year's budget in research and development.

We have to have something out on the battlefield that is what we call a line of sight forward. That is what the Sergeant York was going to do before. We are going out off-the-shelf in this particular case. We think we need a gun-missile mix on that battlefield.

However, we are letting industry come in to us and say, "This is what I have." It may be two vehicles, it may be a single vehicle, a hybrid, or maybe just a missile or just a gun.

FAAD ALTERNATIVES

Finally, we think there is a tremendous payoff if we have something we call a non-line-of-sight system which can fire about [deleted] and hit that helicopter when he is hovering out there.

There are several ways of doing this, but one candidate is a system that we were formerly looking at in an antitank role called FOG–M. FOG–M is a fiber optic guided missile where the operator sits in a vehicle and looks through the missile seeker. When he sees the target, he can drive FOG–M right into it.

In fact, we recently tested this twice at our missile command. We fired one at a helicopter sitting on the ground with the rotor turning just to see if we could hit it. The one we flew last month was fired at a helicopter traveling at 60 knots and 75 feet. We flew the missile right through the top of it with an operator that had been trained 3 weeks. He was a specialist fourth class air defender.

We feel that FOG–M can have a real high payoff on the battlefield and it seems to be a relatively simple system. That is part of our program.

GROUND SYSTEM IMPROVEMENTS

Finally, we continue to look at how we can improve our ground system. If a hovering helicopter pops up within tank gun range, 3,000 to 4,000 meters, the tank can be very effective against it. In fact, the Israelis used the tank against helicopters in the Lebanonese incursion and used them very effectively.

There are ways you can use other weapons systems for attack. It is a combined arms battle. We put together a full program to go after that.

The only new system that we are introducing is really the non-line-of-sight system to get that hovering helicopter out here that the Sergeant York was not able to attack at long range. It will have a range of up to eight to [deleted] and can attack behind terrain. We can only do that if the sensor in our command and control system can find him out there and tell us where he is.

Senator SASSER. Thank you, General.

Let me make one final comment.

As a Senator from Tennessee who knew Sergeant York's widow very well, I wish you all would quit calling that failed system the Sergeant York. If you name another one Sergeant York, make sure it will work correctly and shoot real well before you put that name on it.

General WAGNER. Yes, sir.

Senator STEVENS. As one who was out flying an Apache not too long ago, I have mixed feelings about what you have done to ground them all. I think they use those like the fighter trainers we had in World War II; they are putting tremendous stress on them. I think that is one of the real things you should look into.

The helicopter pilots think they are fighter pilots and they nearly are, as a matter of fact.

AIRCRAFT CONTINGENCIES

Dr. SCULLEY. It is a wonderful agile aircraft, as you know, Mr. Chairman. I can assure you that in the bird itself we are very careful not to take it beyond its performance envelope and use the combat mission simulator for those contingencies in training to simulate performance near or beyond that performance envelope.

I can assure you as a matter of policy that our training takes place within that envelope.

Senator STEVENS. They are very, very versatile. Those young pilots will show it can do more than it can.

General WAGNER. One of them we are going to add is a flight recorder so that we can tell if it has been flown out of the envelope, if it has pulled more G's than it should. We will know if the individual does not follow the rules.

Sometimes there is good reason to do that, particularly in combat. If you do fly out of the envelope, at least you will know where to check to make sure you have not overstressed the system.

Senator STEVENS. You ought to let them overstress the system in peacetime so that they will know what it can do in wartime.

General **Wagner**. That is the reason we want it, to go back and check to see.

We also have a major program looking at every critical item in our aircraft today. We started that in the last year; is much more detailed than we have ever done in the past, to take every item that might be a failure item and to overstress it until it breaks to see if it can be improved in any fashion.

We have probably worked harder on that in the last year and a half than we ever had in the history of aviation.

M1 ENGINE TANK COST

Senator **Stevens**. Dr. Sculley, we were told about a proposal to provide a new diesel, 1,500-horsepower engine for the M1. That looks like it would have a great many cost savings and survivability benefits to it.

Are you looking at that seriously?

Dr. **Sculley**. Yes, we are. I consider most any proposal or offer that is brought to me seriously. It is consistent with the line of questioning that Senator Sasser raised. We are always looking for opportunities to improve on the O&S cost of any weapon system.

At this time, some nearly 10 years after the decision was made on the diesel versus our current AGT 1,500 engine, there has been a great change in technology, both in turbine engines and diesel engines.

I am pleased to see General Motors with such a deep interest in defense programs. I think they can bring a lot to the table. I can assure you that their proposal will be given very serious consideration.

SUBMITTED QUESTIONS

Senator **Stevens**. Thank you very much. We do have some submitted questions. I appreciate your presentation.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR D'AMATO

Delinquency Rate for Spare Parts

Question. What is the average delinquency rate in New York State for spare parts producers before future contracts are denied?

Answer. An average delinquency rate is not used to determine an offeror as a responsible contractor. Past performance is an evaluation of the offeror's overall past performance, tempered by consideration of current performance, with added weight being given to performance on items like or similar to the bid items.

Question. How does this rate for New York compare with other regions?

Answer. Records are maintained by individual contract and contractor, not by State. Therefore, there is no means of making a comparison.

QUESTIONS SUBMITTED BY SENATOR STENNIS

GUARD AND RESERVE EQUIPMENT SHORTAGE

Question. Would you agree with the statement that "Equipment shortages are the most serious limiting factor affecting readiness in the Army Guard and Reserves"?

Answer. Yes, even though both the Army and Congress have provided substantial support to alleviate equipment shortages in Reserve component units, equipment shortages are still the most serious limiting factor affecting their readiness. The Unit Status Report compares equipment on hand against documented wartime requirements.

INCREASED RELIANCE ON IMPROPERLY EQUIPPED RC FORCES

Question. Do you believe it is good policy to increase the role of the Guard and Reserve faster than the Department's ability to equip and support the new units? You wouldn't do that for the Active Force, would you?

Answer. It is HQDA policy, as stated in AR 71-11, to activate or convert only that structure which is supportable from a personnel, equipment, and training perspective.

Reserve component units are seldom fully manned, equipped, and trained on the first day of their activation. They are generally permitted up to 3 years from their date of activation to achieve an appropriate readiness posture.

Those missions which are transferred to the Reserve component concurrent with inactivation of Active component unit(s) which had previously provided this mission capability are accompanied by the transfer of complete unit equipment sets to support the new Reserve component unit and its mission capability.

Reserve component units which are activated/converted from existing structure to meet newly identified requirements are programmed with full consideration for equipment acquisition and distribution plans.

Reserve component activation of units which are equipped only with minimum essential equipment for training [MEET], or under equipped, could provide a trained nucleus around which complete units could be rapidly grown as equipment becomes available in a pre- and post-mobilization environment.

TOTAL ARMY PRIORITIES

Question. As the official responsible for acquisition for the "total Army," how have you adjusted or can you adjust, the Army's priorities to improve this situation in light of the increasing reliance on the Reserve components [RC] by the Army?

Answer. The Army has accelerated equipment modernization of the RC to enable units to train with equipment comparable with that of the Active components [AC]. This has resulted in increased quantities of equipment being distributed to the RC. In fiscal year 1987, $1.65 billion worth of equipment will be purchased for the Army National Guard and U.S. Army Reserve. The fiscal year 1987 budget provides a balanced procurement approach and funds the most critical equipment needs of the total Army.

SUBCOMMITTEE RECESS

Senator STEVENS. We will stand in recess until tomorrow when we will have testimony on defense manpower overview.

[Whereupon at 11:35 a.m., Tuesday, March 18, the subcommittee was recessed to reconvene at 10 a.m., Wednesday, March 19, 1986.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

WEDNESDAY, MARCH 19, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senator Stevens.

DEPARTMENT OF DEFENSE

ASSISTANT SECRETARY OF DEFENSE

(FORCE MANAGEMENT AND PERSONNEL)

STATEMENT OF HON. CHAPMAN B. COX, ASSISTANT SECRETARY OF DEFENSE (FORCE MANAGEMENT AND PERSONNEL)

DEFENSE MANPOWER REQUIREMENTS

OPENING STATEMENT OF SENATOR STEVENS

Senator STEVENS. I am sorry to be late. I was stuck on an early morning speech.

I am happy to see you here, Mr. Secretary. I think this is your first appearance before us as the Assistant Secretary for Force Management.

Mr. COX. Yes, sir.

Senator STEVENS. You come very highly recommended since you have married an Anchorage girl.

Mr. COX. I count that as one of my greatest successes, sir.

BUDGET REQUEST

Senator STEVENS. The subject of our hearing today is the budget request for military and civilian manpower requirements.

The fiscal year 1987 budget includes approximately $107 billion to pay and support our military and civilian personnel. This represents an increase of $3.6 billion over enacted appropriations, but does not reflect an additional $3.3 billion set-aside to fund the requested 4 percent military and 3 percent civilian pay raises, if authorized.

The Department's request for an additional 13,730 active duty military personnel and 4,412 civilians will be a tempting target in light of increasing deficit reduction pressures in Congress.

As I said, Secretary Cox, you come in at a very important time in this overall budget process. I look forward to working with you, and so does my staff, in trying to work out the details of this budget to assure that we will have some loss prevention mechanism to put in place to retain the personnel manpower resources that we need in the Department of Defense.

PERSONNEL COMPENSATION

We would like to see, if you will give us for the record, the average cost of compensation of active duty military personnel broken down by officer, enlisted and combined compensation rates for the fiscal year period 1980 through 1987.

Mr. Cox. We will be happy to do that.

[The information follows:]

AVERAGE COST OF MILITARY PERSONNEL

The requested data are as follows:

AVERAGE COST OF ACTIVE DUTY MILITARY PERSONNEL

	Officer	Enlisted	Combined
Fiscal year:			
1980	$27,701	12,046	14,159
1981	31,980	13,875	16,341
1982	37,363	16,001	18,935
1983	38,749	16,715	19,781
1984	39,460	17,241	20,386
1985	55,158	23,977	28,421
1986	57,407	25,037	29,692
1987	57,719	25,276	29,941

The foregoing data include all costs in the Active military personnel appropriations and the tax advantage because the allowances are not subject to taxes, except those for: pay and allowances of cadets and midshipmen; permanent change of station travel; and death gratuities, apprehension of deserters, unemployment compensation for former military personnel, and survivors' benefits.

The data are on a direct basis; that is, they exclude reimbursable dollars and strengths.

Beginning in fiscal year 1985, the Defense budget reflects amounts to cover the accruing retirement liability for personnel on the rolls after October 1, 1984.

TOTAL FORCE CONDITION

Senator STEVENS. We have included your whole statement in the record. We are in session so I do not know how many people are going to come to participate.

I look forward to seeing if we can get some answers to some questions that we discussed with your predecessor, Dr. Korb, last year.

Mr. Cox. Fine, sir.

I do have a statement which I will submit for the record.

Let me start by saying it is a pleasure for me to appear before you to testify on the condition of our total force. In my opening remarks I would like to focus on three items.

First is the apparent growth, which you referred to, in the personnel account.

Second, the retirement legislation which we have submitted.

And, third, some particular interest items.

MILITARY PERSONNEL ACCOUNT

First, there does appear to be a disproportionate increase in the military personnel account between fiscal year 1986 and fiscal year 1987. This, however, is due to accounting factors and not program growth. Most of the increase comes from two things.

First, in fiscal year 1987 we have fully funded the military retirement accounts instead of underfunding them by $2.9 billion as Congress directed us to do last year.

Second, in 1987 we fully funded last year's pay raise for military personnel. Last year this raise was not funded in the budget, but paid with unobligated 1985 balances.

So, this leads to the appearance of larger growth in 1987 than is actually the case. What looks like an increase of 9.3 percent is really only about 5 percent, including the 4-percent pay raise.

MILITARY RETIREMENT

With respect to military retirement, I would just like to indicate that this issue is one of great concern to us, as it has been over the last few years. We believe that military retirement plays a vital role in our ability to retain personnel.

We have submitted the two options for legislation which the Congress directed us to do last year to obtain the $2.9 billion reduction for fiscal year 1986.

I do want to point out, though, that the administration does not support either one of these options, but we presented them because we were directed to.

In addition to submitting the two options, we requested that neither one of them be accepted, but that legislation be adopted to give us back the $2.9 billion that was necessary to fund fully the retirement accounts.

That is because we feel that either one of the alternatives would severely hamper our ability to retain the high-quality personnel we need and would, therefore, pose an unacceptable risk to our future combat readiness posture.

Now, we are in a difficult situation. If the funding that was taken out last year is not restored quickly, then we will have to make some adjustments in order to come up with the $2.9 billion. The only way we feel we can do that is by cutting the force by approximately 330,000 Active and 176,000 reservists.

Another of our chief concerns this year is to deal responsibly with the Gramm-Rudman limitations.

The President's budget in the military personnel area supports one of the most successful turnarounds in this country's recent past. With the help of the members of this committee, the hemorrhage of mid-level NCO's from the force has been stopped and, as you mentioned, Mr.

Chairman, the quality of both enlisted and officer corps has been significantly increased. This success is most commendable and, with your support, I intend to make the continuance of this trend the principal objective of my organization and of my personal endeavors.

In 1987 we cannot exempt military personnel accounts from Gramm-Rudman cuts as we did in 1986. Fortunately, the President's budget comes in under the cutting threshold. We urge your help in supporting this budget in order to avoid MILPERS cuts in fiscal year 1987.

PRIORITIES IN FISCAL 1987 BUDGET

My priorities for this year reflect some of the concerns I have already mentioned.

First is maintaining the quality and quantity of new accessions and experienced military and civilian personnel to meet our variety of missions around the world. We feel we can cope with economic competition in the private sector and demographic changes, but we cannot waiver in our commitment and dedication.

Our pay increases, improvements in benefits such as travel allowances, family support centers, and other people programs have all been pivotal to our success and must continue to be supported.

We are entering a period of increasing uncertainties. The realities of military life, perceptions of pay caps and mandated retirement cuts all create concern for the future. We have to be especially careful in our critical skill areas such as pilots and nuclear duty personnel.

Second, protecting the total force against reductions in end strength is part of this effort. Undermining the force degrades our ability to support current force structure and the new weapon systems already in the pipeline.

It also dramatically affects our capability to train the force needed to maintain our readiness and sustainability. Approved funding levels for the requested military end-strength, recruiting resources, adequate levels of compensation, and adequate training programs are absolutely necessary to keep our force ready.

Third, critical to the maintenance of our forces is our ability to compensate our people adequately. We are asking for your support of a 4-percent pay raise in fiscal year 1987. This allows us to match our best estimate of private sector pay growth and keeps us from falling even farther behind in this competitive market.

CIVILIAN WORK FORCE

Finally, we must preserve the flexibility we now have to ensure that our civilian work force matches our workloads, that the workloads are funded, and that productivity initiatives are funded.

The issues that I have mentioned establish the base for preserving the progress in the manpower area that you deserve credit for making during the last few years. With your continued support, we will be able to maintain the high degree of readiness of our total force.

Mr. Chairman, that completes my opening remarks. I will be happy to answer your questions.

Thank you, sir.

[The statement of Mr. Cox follows:]

PREPARED STATEMENT OF CHAPMAN B. COX

ASSISTANT SECRETARY OF DEFENSE (FORCE MANAGEMENT AND PERSONNEL)

Good morning, Mr. Chairman.

It is a pleasure to testify concerning the condition of our Total Force. Our principal goal is to deploy the highest quality and most effective soldiers, sailors, marines and airmen in the porld to preserve peace, deter aggression and respond to contingencies. I will review our objectives, initiatives, programs, successes, and problems in this Total Force effort.

The Total Force encompasses not only the active and reserve military components, but also our civilian employees, the contractors who work for the department, and retired military personnel. We strive to obtain the best possible mix of all these valuable resources and to maximize their productivity in order to achieve:

1. A high state of readiness to mobilize, employ, and sustain our force;

2. With a most effective and efficient expenditure of the funds entrusted to us by the American taxpayer.

ACTIVE COMPONENT MILITARY MANPOWER

The active component of the Total Force provides a military presence overseas, engages in low intensity conflicts, and serves as the vanguard of our response to large-scale aggression.

Major deficiencies in the quality and quantity of the active component which prevailed in the late 1970s have been corrected in the last five years. We now have a well trained, well balanced, well motivated, well disciplined force that provides for our current defense commitments and serves as a solid foundation for the future. The President has shown his continued commitment to this strong manpower posture by exempting essentially all of the military personnel accounts from Gramm-Rudman cuts in FY 86. Without qualified, dedicated people to operate and maintain military equipment and fill our combat and support units, our improvements in force structure and modernization would have been hollow at best.

Growth in active strength, improvement in the quality of recruits, improvement in the experience level of the force, and reduction of critical skill shortages, all demonstrate this success.

Active Strength

Adequate strength is fundamental to unit personnel readiness. There are over 100,000 more active component service members today than there were in 1980. For FY 87, we are requesting an increase of 13,730 (or 0.6 percent) over the FY 86 level of 2,167,370. This modest growth is required to support the force modernization programs already approved by Congress. End strength levels should not be constrained below the level sufficient to man the force, as they have been the last three years. Undermanning of new weapons systems and of the force as a whole ultimately degrades readiness. We urge your approval of funding for our requested growth to support our current force structure and new weapons systems.

Recruiting

Despite substantial improvement in the economy, reduced unemployment, and the continuing decline in the size of the eligible youth population, each Service met its recruiting goals for FY 85. That meant about 301,400 non-prior service accessions. This recruiting success was attributable, in large measure, to Congressional support of our efforts to restore and maintain competitive pay levels, to improve the quality of life for military members, and to provide the Services with necessary recruiting resources and enlistment incentives.

Education levels and enlistment test scores of our recruits are considerably higher than those of the general youth population. Ninety-three percent of last year's recruits have earned a high school diploma. This compares to about 75 percent of today's general youth population and 68 percent of recruits in FY 80. Ninety-three percent of new recruits in FY 85 likewise scored average or above on our enlistment test, compared to 69 percent of today's general youth population and 65 percent of recruits in FY 80.

Recruiting in FY 86 and beyond may become more difficult. Congressional action that reduced our active component recruiting and advertising request for FY 86 by $30 million dollars and eliminated our authority to pay an enlistment bonus to service members who also receive an educational "kicker" may substantially affect our ability to attract recruits of high quality.

Since July 1, 1985, the Department of Defense and the Veterans Administration have been jointly funding and administering a three-year test program of the New GI Bill. In the President's Budget, we propose that this test program be ended on October 1, 1986 rather than July 1, 1988, as is called for in the current law. At that time, we propose to resume the Veterans Educational Assistance Program (VEAP), which was suspended during the New GI Bill test period. The resumption of VEAP, in place of the New GI Bill, will provide cost savings and an educational recruiting incentive sufficient to meet our manning requirements.

Enlisted Retention

We have halted the loss of experienced people that plagued the Armed Forces in the late 1970s. The current reenlistment rate for career enlisted personnel is about 84 percent, compared to about 69 percent in 1979. The total enlisted force has grown about 4 percent since 1980, while the noncommissioned and petty officer corps has grown by about 13 percent. Average years of service in the enlisted force have increased from 5.55 to 6.04 years.

While enlisted retention is now at high levels, some shortages still exist in skills that are highly marketable in the private sector or that involve particularly arduous duties. These shortages are primarily in the middle grades and are being alleviated by improved bonus programs, better promotion opportunities in shortage skills, and retraining/reclassification programs.

The Enlistment and Selective Reenlistment Bonus programs are two of the primary incentives we use to attract and retain high quality personnel. The authorities for these bonuses (Sections 308 and 308a of Title 37, United States Code) expire on September 30, 1987. During the effectiveness of these laws, there has been ample evidence that such bonuses are needed and are being used in a cost-effective way. Before the authorities expire, the Department plans to submit legislation to make them permanent.

Officer Shortages

Our most serious officer shortage problem continues to be in the grades 0-4 through 0-6 in the nuclear trained submarine and surface officer communities. We believe that continuing the various enhanced incentive programs previously established by the Congress will help reduce these critical shortages from about 20 percent now to about 10 percent by the end of the decade.

Another continuing officer retention problem is in the pilot communities of the Services. Currently, only the Navy has an aggregate shortfall (approximately 1,100), but all Services have been adversely affected by the continuing high rate of hiring by the airline industry. We are monitoring this situation closely to ensure that we remain competitive and that we maintain a level of experience that does not jeopardize aviation readiness and safety.

The management of flag and general officers is another area in which we continue to experience some problems. We have resubmitted legislation to establish a comprehensive framework for managing flag and general officer requirements. We need to get away from temporary solutions and establish a reasonable and consistent methodology for determining flag and general officer ceilings.

Wartime Shortages

Our current data project both officer and enlisted shortfalls in the event of war. Most of these shortfalls arise from casualties and the training time required for replacements. We are beginning to address these shortfalls by planning for (i) wartime assignments of personnel in their secondary skill areas; (ii) preassignment of pretrained reserve and retired personnel to wartime requirements; and (iii) peacetime refresher training for reserve and retired personnel oriented to their wartime assignments.

Military Women

We continue to make excellent progress in increasing the role of women in the armed forces. Today almost 10 percent of the active force is made up of women. This is a 22 percent increase in the number of military women since FY 80. Military women can and should be used in all roles except those explicitly prohibited by combat exclusion statutes and related policy. We expect the number of military women to continue to grow over the next few years.

Equal Opportunity

Equal opportunity programs support the best use of all our human resources, enhance unit cohesiveness and morale, and are a vital element of Total Force readiness. While we have made significant progress in these programs, we need continued innovation and initiative in order to insure fairness and actual equality of opportunity. I have recently requested the Secretary to establish a Department of Defense Equal Opportunity Council which I will chair and which will include the three Service Assistant Secretaries for manpower and personnel as members. The purpose of the council is to address equal opportunity issues and concerns at the highest executive management level of the Department, to monitor the progress of EO programs in the military components, and to advise the Secretary on equal opportunity policies. The council will review the status of women and minorities in conjunction with a review of our Total Force requirements.

Compensation Issues

Meeting our recruiting and retention goals is dependent upon maintaining a fair and competitive military compensation package. With the support of the Congress, we have been successful. The FY 86 Defense Authorization Act contained numerous and substantial improvements in compensation and reimbursements, including increases in selected special and incentive pays, increases in reimbursement for travel expenses, and authorization for a dependent dental care program.

In view of the compensation improvements provided in FY 86 and the constrained budget environment in which we are operating, we are proposing only modest improvements in compensation for FY 87.

The 4 percent military pay raise we are requesting closely parallels our best projection of what private sector wage growth will be in FY 87. Military pay raises now lag 8.3 percent behind private sector pay raises as measured by the Employment Cost Index. It is imperative that we not allow this gap to widen if we are to continue to attract and retain the high-quality personnel we require to maintain force readiness.

Before leaving the discussion of military compensation, I would like to touch briefly on two other topics that I believe play a vital role in our ability to recruit and retain personnel. The first is military retirement. As you know, we submitted legislation, as required by Congress, for two alternative retirement systems designed to reduce the accrual for the military retirement fund by $2.9 billion in FY 86. As we indicated in our report to Congress, the Department is strongly opposed to both alternatives. We believe that the deep cut in retirement benefits associated with either alternative would severely hamper our ability to attract and retain the high-quality personnel we need and would therefore pose an unacceptable risk to our future combat readiness posture. Therefore, I urge the Congress to keep intact the current system, which has served us well, and to restore the funding required to sustain it.

The other area I would like to discuss briefly is federal tax policy regarding military pay and benefits. The present tax treatment of military compensation is a long-standing tradition originally adopted for reasons relating to the unique conditions of military service. We believe those reasons are as valid now as they were when the present policy was adopted. The tax benefits received by military personnel are an integral part of total military compensation, and any reduction in those benefits would be a cut in overall compensation. Proposals in both

Houses, including the Tax Reform Act of 1985 that recently passed the House, recognize it as essential that our members be protected from reductions in compensation through changes in federal tax policy. We strongly support the legislative proposals that preserve military compensation from erosion by taxation.

Quality of Life

We have found that attention to quality of life concerns pays off in increased retention and improved morale and productivity. Our programs in this area contribute to sustaining personnel readiness by recognizing the importance of healthy military families. Some highlights in this area are:

--the 550 child care facilities operating on 400 installations worldwide,

--the expansion of day care programs,

--the Family Policy Office established last year,

--the addition of 26 family service centers, bringing the total to 298 on DoD installations worldwide,

--efforts to improve the situation of military spouses seeking employment,

--the authorization of the use of commercial credit cards in the exchange system,

--our safety and occupational health program, which reduces personal hardship and suffering through prevention of accidents, injury, and illness, and

--our economic adjustment program, which operates in close cooperation with local government efforts to ensure that necessary public services are available to service members and their families where military bases are being expanded or created.

Your support for our quality of life programs is vital to their success.

Training and Education

To receive the full benefit from our valuable human resources, we must teach individual service members to perform capably in over 600 military skills, and we must train groups of skilled individuals to perform as military units.

The quality of individual instruction has steadily improved over the past several years. Congress has supported adequate numbers of instructors and supporting personnel, improved training facilities, and modern training technology, such as simulation for maintenance training and computer-based instruction.

Rigorous and realistic unit training is indispensable to developing the smooth teamwork required for ready forces. During the past five years, improved technology has made training more realistic and effective. The development and use of instrumented ranges for air-to-air and ground-force tactical training is an example. Innovations of this type are particularly important to stretch the value and effectiveness of the unit training dollar. Operating tempos--ship steaming days, flying hours, combat vehicle mileage--that support collective unit training have not increased materially over the past several years, and in most cases they still fall below the desired goals of the Services. Any reduction in funding for collective unit training would result in reduced readiness, in spite of the quality of our personnel and the introduction of new weapons. I urge the Congress to provide the resources required for effective collective unit training.

Education is the knowledge base for training. Education programs and options have evolved to support training, recruiting and retention. Our tuition assistance program, as an example, supports 700,000 off-duty college course enrollments, making it the largest continuing education program in the world.

European Troop Strength

I urge the Congress to repeal the ceiling on European troop strengths, which is currently set at 326,414. Although the ceiling has helped to focus attention on European strengths and has sensitized our NATO allies to the burdensharing concerns of the Congress, it has become counterproductive. For example, as we deploy the Ground Launched Cruise Missile we must reduce our conventional force contribution to NATO to remain within the ceiling. This significantly undercuts the emphasis on conventional defense improvement mandated by the Alliance Defense Ministers and stressed by the Congress. In addition, the ceiling tells our friends and enemies alike that we have a political cap on our commitment to NATO that is not responsive to any increase in the threat. The ceiling is also not the best way to encourage increased allied contributions. Rather, we should lead by example and by positive incentives, such as the Nunn amendment on NATO cooperative research and development.

Overall ceilings on Service end strengths, budget realities, and other global requirements for US forces all work to constrain European strength. Futhermore, we now have a much improved system for managing European troop strengths to ensure that they are held to the minimal essential level. From a management viewpoint, the ceiling interferes with DoD's operational flexibility and is precisely the kind of micromanagement that members of the Congress have opposed. I believe the security interests of the United States would be best served by the elimination of the ceiling.

RESERVE COMPONENT MANPOWER

The reserve components are key elements of our Total Force. We include each category of reserve manpower in our planning for mobilization in time of war or national emergency.

Categories of Reserve Manpower

Total reserve manpower consists of the Ready Reserve, the Standby Reserve, and the Retired Reserve. The Ready Reserve consists of the Selected Reserve, the Individual Ready Reserve (IRR), and the Inactive National Guard (ING). The Selected Reserve is composed of the organized, equipped, and trained units and individuals required to maintain the highest level of readiness in the Reserve Components. The IRR/ING is made up of individual reservists who are not in the Selected Reserve but who can be recalled on an individual basis to provide initial augmentation of active or reserve units. The Standby Reserve contains those individual reservists who wish to remain affiliated with the reserve but are unable to participate in the Ready Reserve. Finally, the Retired Reserve comprises reservists who have been transferred to a retired status.

Improvements in Reserve Manpower

This Administration has placed great emphasis on improving Reserve Component military manpower, and the results of this emphasis are evident. In FY 85, Selected Reserve strength reached an all-time record level of 1,088,062. We have requested an increase to 1,186,200 for FY 87. The quality of Selected Reserve enlistees has increased significantly, in spite of sustained economic growth, a smaller pool of military-age youth, and higher retention in the active military components. Increased recruiting resources and targeted incentives have contributed significantly to this increase.

The IRR/ING has grown about 18 percent since FY 80. Management initiatives and the IRR Reenlistment Bonus Program are helping to retain people with key skills and to reduce shortages in combat and other critical wartime skills. We also expect the new eight-year military service obligation to contribute further increases in IRR strength. To ensure that the IRR will be a viable wartime asset, the Department will conduct annual screening to determine the skill proficiency, refresher training needs, and mobilization readiness of IRR members.

Force Mix Considerations

We consider many factors in deciding on the proper mix of active and reserve forces. Cost, of course, is a primary consideration; total defense costs are reduced by maintaining significant military capabilities in a reserve status rather than maintaining all military forces on active duty. However, overseas deployments and some peace-time missions are not appropriate for part-time reserve forces. We must also ensure that there are sufficient active forces to provide for needed reinforcement until reserve forces can be mobilized.

Although the considerations noted above mean that each decision on active-reserve force mix must be addressed on its own merits, our general policy is to use reserves whenever possible. Our reserve personnel are highly trained, highly skilled professionals whose sense of duty and demonstrated ability are cornerstones of our national defense.

RETIRED MILITARY PERSONNEL

Our retired military personnel constitute a pool of highly trained individuals with prior military experience (regular or reserve) who can be recalled to active duty during a major conflict. These personnel could be used as fillers to bring units to wartime strength, to expand the continental United States support base, or to perform other functions related to national defense.

We estimate that there are about 820,000 non-disability military retirees under age 60. In order to maximize the potential of this valuable manpower pool, we are trying to ensure that all of these retirees whose skills match a mobilization requirement are preassigned in peacetime to mobilization billets or stations. The Army has issued preassignment orders to over half of its eligible retirees. The Marine Corps has preassigned only a small percentage of its retirees but can link the remainder of its retiree force to vacant wartime positions through automated data systems. The Navy is beginning to match retirees with mobilization billets, and the Air Force has developed plans for selectively using retirees after the announcement of a mobilization.

Our efforts to improve the management of this potential manpower resource show our commitment to obtaining the best possible mix of all the personnel assets available to us.

CIVILIAN MANPOWER

Our policy is to use civilian employees and contractors wherever possible, in order to free our military forces to perform military functions. Our civilians are heavily invested in support and auxiliary areas, where they perform functions essential to near- and long-term military readiness:

--Seven percent of the Department's FY 85 civilians were employed in direct support of DoD strategic and tactical/mobility activities.

--Nine percent were employed in auxiliary activities such as intelligence, communications, and research and development.

--Thirty-three percent were employed in base operating support functions.

--Thirty-five percent were employed in central logistics functions.

--The remaining sixteen percent were employed in medical and personnel support, individual and force support training, and other support functions.

Manpower Levels

During 1985, the Department managed civilian manpower levels based on funded workload as opposed to end strength ceilings. At the end of FY 85, the Department employed 1,129,148 civilians, 41,372 over the FY 85 President's Budget estimate of 1,087,776. For FY 86, we project funding a civilian work force of 1,110,204, and we are requesting funding for a FY 87 civilian work force of 1,114,616.

For FY 86 and FY 87, the civilian staffing level of the Military Departments as a whole remains basically level. The Army numbers reflect a 2,000 space reduction due to restructuring and increased efficiency activities. A 1,500 space increase is forecast in the Air Force for increased support of B-1, C-17, and F-16 aircraft and an increase in the number of civilian technicians to support Guard and Reserve activities.

There is an increase of 5,000 civilians in the Defense Agencies. These increases are spread throughout the agencies, with the largest share going to the Defense Logistics Agency for contract administration and quality assurance efforts. There are also significant increases in the Defense Contract Audit Agency, the DoD Dependents Schools, and the DoD Inspector General's Office.

Defense Agencies

I would like to focus for a moment on the Defense Agencies, a group of Defense Department organizations that receive very little recognition but are essential to the successful accomplishment of our missions. The Defense Agencies exemplify our long-standing emphasis on improving the way we do business. They have been organized under authority granted to the Secretary of Defense to integrate under a single agency any supply or service activity common to more than one Military Department, whenever the Secretary determines that this arrangement will be more efficient, economical, or effective. Whenever a Defense Agency outlives its usefulness, or the Secretary determines that the individual Military Departments can perform the activities more efficiently and economically, the Secretary may disestablish the Defense Agency and return its functions to the Military Departments.

Although the Defense Agencies are essentially civilian organizations, they all have some military personnel to ensure an adequate understanding of the requirements of the Military Departments. The primarily civilian makeup of the Defense Agencies ensures economies of pay, longer corporate memories, and higher technical skills than are readily obtained from a military manpower pool with its frequent personnel rotations.

The distribution of civilians among the Services and Defense Agencies is based on the changing missions of these components, the differing workloads associated with those missions, and various Department initiatives to reduce demands for manpower.

Operations Without Ceilings

The Fiscal Year 1986 DoD Authorization Act excluded all Department operations and activities from civilian end strength controls for a second year. During FY 83 and FY 84, DoD industrially funded activities operated without civilian end strength ceilings. I have issued guidance to the Services and Defense Agencies on operations without civilian ceilings that stresses prudent and efficient management, including an emphasis on labor saving initiatives. On February 1, 1986, I provided a report to the Congress on our FY 85 experiences. Per Congressional direction, we will submit quarterly reports on our FY 86 operations. We appreciate the opportunity the Congress has given us to show that the Department can manage its civilian work force efficiently and effectively without statutory end strength controls. As directed by Congress, our FY 87 civilian manpower request anticipates continuing operations without ceilings.

Management Headquarters

Over the past several years, the Department has tried to strengthen program and policy oversight at the highest level within the Department in order to reduce waste and improve management of Department resources. Increasing pressure from Congress to reduce management headquarters activities and the Office of the Secretary of Defense (OSD) in particular has hindered us in this effort. The continuation of the freeze on OSD manning levels through FY 86 has increased the potential for waste and mismanagement.

During the last authorization and appropriation cycle alone, Congress levied requirements for 676 different reports from the Department. The Secretary of Defense must have the sufficient manpower resources to manage the Department effectively and satisfy ever-increasing congressional requirements.

INITIATIVES TO REDUCE DEMANDS FOR MANPOWER

Because we are extremely conscious of budget realities, the Department makes every possible effort to reduce our demand for manpower in accomplishing our mission. We have directed the components to use temporary employees and overtime to help accommodate workload surges and unplanned and one-of-a-kind requirements. Use of these alternative staffing methods will assist in minimizing the size of our permanent civilian work force.

Under the A-76 program, any operation or activity that is not necessarily governmental or military in nature should be competed with the private sector. The Department has competed approximately 49,600 military and civilian positions with the private sector since 1979. In-house work forces have won about 50 percent of the competitions, and private industry has won the other half. The A-76 competitive process is now saving the Department about $501 million annually.

The Efficiency Review program takes a hard look at Department missions, functions, and activities that cannot be subjected to an A-76 commercial activities review. A trained Efficiency Review team analyzes mission statements, establishes performance work statements for these approved statements, and then seeks out and employs the most efficient methods for performing these missions.

We involve our work force in productivity improvement efforts by using behavioral techniques such as Quality Circles, performance-based incentive systems, job enrichment efforts, and organizational development efforts.

We also use a broad range of Productivity Enhancing Capital Investment programs to encourage and finance cost-effective investment in equipment and technologies. The FY 87 Department of Defense Budget request includes $283.2 million in Productivity Enhancing Capital Investments. Of this amount, $176.2 million is earmarked for Productivity Investment Fund projects costing $100,000 or more. These projects, once implemented, will pay for themselves within 1.8 years. We project a current overall return of $16 for every $1 invested.

CONCLUSION

Our emphasis on qualifying our people for their jobs and maximizing their productivity has taken on added importance as we face the uncertainties of the Gramm-Rudman-Hollings Act. We are doing our best to ensure that we meet our national security objectives while promoting economy and efficiency. We need your help in ensuring that we have the incentives we need to recruit and retain each component of the Total Force and the tools we need to manage these components. It is imperative that we preserve the current robust strength of our force, which your support has helped produce. We reaffirm to you our unswerving commitment to peace through strength.

JOHNSTON AMENDMENT

Senator STEVENS. Thank you very much.

I understand what you are saying about that $2.9 billion.

We got stuck in a strained interpretation in the budget process last year with the Budget Committee and CBO giving the Armed Services Committee a $2.9 billion credit for legislation they said they were going to enact and then charging our committee with the $2.9 billion because it had not been enacted.

The Johnston amendment continued the myth of the authorization bill until May 1. If retirement reform was not enacted by May 1, you had to adjust in the balance of the year to take care of the retirement contribution.

What you are saying is that, as I understand you, you are prepared to take action now to pay the $2.9 billion, but you submitted legislation which could be enacted by May 1?

Mr. COX. Yes, sir.

Senator STEVENS. Have you any indication that it will be?

Mr. COX. We do not, sir. I raise it only as a red flag to tell you that we are coming up against the blocks with this problem. The ball is basically in the Congress' court. If action is not taken in Congress, our only choice will be to reduce force structure.

CIVILIAN PERSONNEL CEILINGS

Senator STEVENS. We are having a continued increase in end strength. The Department of Defense is exempt from the end-strength and work-year ceilings that the administration applies to the rest of the Government.

Mr. COX. You mean in civilian personnel?

Senator STEVENS. Yes.

Why should we continue that exemption for civilian personnel in the Department of Defense in view of the history of constant increases we have seen?

As a matter of fact, civilian employment in the Department of Defense has risen 100,000 since that exemption went into effect.

Mr. COX. Yes, sir. The exemption has only been in effect 1 year.

Am I wrong on that?

Senator STEVENS. They tell me 2 years. It has gone off the wall since it went into effect.

Mr. COX. We are talking about a base of over 1 million personnel, civilian personnel. Some of that increase, I think, had to do with the fact that in the past when we were constrained by the end-strength ceiling at the end of every fiscal year, we would go out and release a lot of temporary employees and then hire them back again after we met the end-strength ceiling target.

CIVILIAN END-STRENGTH INCREASES

Senator STEVENS. I think it is just the opposite. I think when Congress, unwisely in some instances, has denied a request for military end-strength increases, that there have been civilian increases where a portion of the workload that was to be performed by the people in uniform has been shifted to the civilian sector of the Department of Defense.

As Congress has denied end-strength increases in the military employment area, the civilian end strengths have increased overwhelmingly.

Mr. COX. We have increased civilian end strength, I cannot deny that.

I also would not deny that we had a program for civilianizing some jobs that were in the past handled by the military people.

I will not deny that during the past year our management of the end strengths in the services has not been as good as it should have been. In the past, management was by end-strength ceilings and when those were released, there was natural relief of pressure or accountability, if you will. We are working hard to develop other mechanisms to develop some management discipline in how we deal with civilian end strength.

I would like to point out to you, sir, that in terms of the total cost of civilian personnel, as the Defense Department budget has grown over the last 5 years to meet the President's and the Congress' approved buildup, the civilian costs have not grown relatively at the same rate.

In fact, the civilian costs in 1980 were up around 15 percent of the total budget. In 1985, they were down around 12 percent.

LOCATION OF ADDITIONAL END-STRENGTH PERSONNEL

Senator STEVENS. I would like you to tell us, if you can, by geographic area where have these people gone? Almost 100,000 people have been added since 1982.

We started this concept of exempting the Department from the end-strength ceiling, civilian personnel, let us be precise, as an experiment. Then the next year someone in Defense liked that and went to the Armed Services Committee and asked them to put it in the authorization bill and now it has become permanent law.

Mr. COX. I guess that is where I got the idea of 1 year. It was 1 year ago it became permanent law.

Senator STEVENS. The problem is we do not know where these people are, whether they are in NATO, Korea, Japan, or here.

Mr. COX. That is a fair question. We will be happy to work with you and give you that information.

Senator STEVENS. Where have these increases taken place?

I have to tell you my suspicion is that the bulk of them is in NATO. We imposed a limitation on increases in military personnel over there and I think Defense hired civilian people to take on a lot of those tasks.

We will continue the conversation after we find out.

Mr. COX. Yes, sir. We will be happy to give you that information.

Senator STEVENS. At least one service Secretary has indicated he would be better off if he had the ceiling because then he would have more control. We will pursue it.

INDIRECT SUPPORT PERSONNEL COSTS

Senator Rudman has introduced a substantial reform program which he calls TRIM. Last year, we urged that there be some adjustment made that would encourage productivity and work quality improvement and no end-strength decrease was required. We would like to know what is happening in the Department as far as this effort is concerned.

We ageed to substantial reductions in the military and civilian pay accounts and directed a reduction in indirect support personnel costs. That was about a $700 million reduction, as I recall.

What have you done with that direction?

Mr. Cox. Are you talking about the productivity indices, sir?

Senator STEVENS. The amendment that we made that reduced military and civilian pay accounts and directed you to take the money from indirect personnel costs.

Mr. Cox. Sir, I am not familiar with this specific direction.

Senator STEVENS. We took $217.1 million from the military personnel account, $477.5 million from the civilian account, a total reduction of $694.6 million.

The report specifically said any reduction in end strength below the authorized level must come from headquarters and administrative staff. On the civilian side we said the reduction should be applied against civilian personnel workyears.

We had a breakdown in our report on military by service and for defense agencies.

We have not been able to find out what you have done in terms of following up on that initiative.

Mr. Cox. I just was handed a piece of paper by my staff which indicates that we did take action to come up with a reduction; but, as I understand it, we did not specifically charge it against certain military and civilian manpower.

We went back and tried to come up with a balanced force structure based upon the $700 million reduction.

Senator STEVENS. Have any reductions been made in the Office of the Secretary of Defense or service headquarters?

Mr. Cox. There were reductions last year, yes, sir. I think there was a 5-percent reduction.

Senator STEVENS. Those reductions in the military-civilian pay accounts had to come from those sources, they could not be taken anywhere but headquarters and administrative staff.

Mr. Cox. We did take reductions, but I cannot give you a direct answer, that I have confidence in, that all those reductions came out of headquarters.

ACTION TAKEN ON CONFERENCE AGREEMENT

Senator STEVENS. I understand you have not done it yourself yet, but I would ask that you review what action has been taken under the direction of this 1986 appropriations bill and in the continuing resolution and provide for the record a detailed breakdown of the action taken to comply with the conference agreement that reduced both military personnel and civilian personnel allowances in the workyear area.

Mr. Cox. We will be happy to do that.

ADMINISTRATIVE AND INDIRECT SUPPORT PERSONNEL REDUCTIONS

The conferees recommended a reduction in military personnel funding and directed that end-strength adjustments should occur in headquarters and administrative staff functions. The Navy accomplished this by a 5,500 workyear reduction associated with the 5,000 end-strength reduction in authorization. In the Marine Corps, workyears were reduced by 600, while end strength was reduced by 700. The Army reduced its military workyears by 2,942, while the Air Force reduced military workyears by 2,087.

In the area of civilian personnel, the conferees recommended a reduction of $477.5 million in operation and maintenance funding, and directed that savings be related to application of techniques to encourage productivity and quality improvement.

The Department of the Navy incorporated actual savings of 1,600 spaces and $14.4 million associated with completed commercial activities studies; 900 spaces and $19.0 million to be achieved through efficiency reviews; and 1,500 spaces equating to $20.4 million resulting from productivity initiatives at industrially funded activities. Also included in the Navy submission were end strength and dollar savings of 940 and $25.0 million, respectively, reflecting disestablishment of the Naval Material Command, and streamlining of the Naval Systems Commands and the Chief of Naval Education and Training.

Anticipated Army savings to date include $50.0 million associated with a 2,400 workyear reduction from current fiscal year 1986 usage levels; $5.2 million from contracting for services and equipment from Korean industry; $1.0 million through reduction in procurement of nonstandard ADPE; and $3.1 million through energy conservation measures. Additionally, the Army Surgeon General projects $1.4 million in savings through medical operational efficiencies and procurement of deployable medical systems.

The Air Force reduced its end-strength estimates in support activities by 5,200, which equates to $80.4 million. An additional $66.0 million was also reduced from civilian pay dollars to be achieved through a combination of selective rehiring and other efficiencies. Savings were obtained by reduction in such programs as weapon system embedded computers; the Multistage Improvement Program [MSIP]; maintenance and modification of automatic data systems; morale, welfare, and recreation; communications engineering; and installation support.

Contracting initiatives provided savings in such areas as military family housing at Camp Shields, photo acquisition and processing, simulator maintenance in Tactical Air Command [TAC], and warehouse functions in AFCOMS.

Other actions, such as transferring the Pil Sung Range to the Republic of Korea provided additional savings. Within the Defense Logistics Agency, a reduction of 1,300 workyears required to support a 5-percent workload growth over the fiscal year 1985 actual has been incorporated in the fiscal year 1987 budget request for fiscal year 1986. This reduction is based on a combination of productivity initiatives and a reduction in indirect and administrative support personnel. The Defense Mapping Agency has planned a reduction of 450 workyears during fiscal year 1986.

GI BILL

Senator STEVENS. We had a lot of testimony here from the Guard and Reserve people concerning the GI bill. It looks to us that what you propose in terms of going back to rely upon this veterans' education assistance program is sort of a mirror. It reduces the up-front funding requirement for the GI bill, but in the long term the cost will be the equivalent or greater.

Federal outlay savings achieved by eliminating the GI bill in 1987, I am told, are only $9 million. It is not an outlay problem, it is an authorization problem.

We have testimony that indicates that it is probably the best thing in town as far as recruitment for Guard and Reserve.

Were you in on the decision to eliminate the GI bill funding?

Mr. Cox. I was not in on the decision, but I do know about it and I can give you my understanding of it.

Senator STEVENS. All right.

Mr. Cox. I think you are right that there is a feature here of authorization versus outlay problem, but I do not think it is a dollar-for-dollar issue. I think that the GI bill is much more expensive over the long term, and that was the basis for the decision, as well as the effort to defer some of the cost.

Senator STEVENS. We see considerable pressure coming in this budget now for the next few years. I think we can predict reenlistment bonuses and a lot of other bonus-type payments are going to suffer. Either that is going to suffer or end-strength limitations will be imposed.

The House, I understand, is considering a mandatory reduction of 100,000 people. Now, the testimony we have is that the Guard and Reserve, which this committee has been trying to maintain on a strong basis because of our feeling that any increase in end strength would be disproportionately too costly for us right now, the Guard and Reserve rely on the GI bill in a way that I do not think the Department really understands.

The feeling of this committee is that the GI bill is a much better tool to assure the continued enlistment of high-quality recruits that we need, both in active military and in the Guard and Reserve.

Mr. Cox. I understand your position, sir, but the administration's position is that it is more expensive than it needs to be to get that amount of accession benefit and that the other program gives you the same accession benefit without as much cost.

Senator STEVENS. Actually our studies indicate that while the initial funding is higher, that the long-term cost of the VEAP is not that much different from the GI bill, but the immediate impact is higher recruitment and higher capability, particularly in the Guard and Reserve.

Mr. Cox. Our numbers just differ then.

Senator STEVENS. I think you ought to give us more justification for the record of the position that you indicate you did not participate in developing, but that you articulated and that is that in the long run the cost of the VEAP will be substantially different.

Mr. Cox. Yes, sir. In some situations it is the same or maybe in some cases a little bit higher, but for the total program, over the long haul, it is cheaper.

Senator STEVENS. Norma points out to me that it is cheaper because the VEAP is not useful for the Guard and Reserve.

COST COMPARISON IN GUARD AND RESERVE

Mr. Cox. Let us give you a comparison and include what we are going to do in Guard and Reserve.

Senator STEVENS. Separate the cost in active and Guard and Reserve and see how that comes up.

Mr. COX. That is a fair question.

[The information follows:]

COMPARISON COSTS NEW GI BILL/VEAP

The table below displays the estimated program costs under the current authority as well as under the administration proposal. The presentation is in terms of total Federal outlays rather than budget authority since the Veterans Administration and DOD budget for the new GI bill on a different basis (outlay versus accrual) and because the Veterans' Educational Assistance Program [VEAP] has also been budgeted on an outlay basis. The chart also captures the offsetting effects of member contributions for the active duty benefits. Through fiscal year 1991, the cost savings reflected in the table as a result of the administration proposal are increased to $230 million. This is because the incremental cost of returning to a targeted education assistance program for the Reserve components would be absorbed from Reserve incentive programs. The proposed Reserve program, similar to the previous Education Assistance Program, provides payment for either an enlistment bonus or the targeted Education Assistance Program but not both. With the new GI bill the reservist may be eligible for a bonus and education assistance, hence, the higher cost. Annual savings related to both Active and Reserve benefit programs should increase after fiscal year 1991 under the administration proposal, as fewer personnel will be eligible to draw the higher active duty basic benefit and Reserve entitlement of the new GI bill.

FEDERAL OUTLAYS—FISCAL YEARS 1987–91

[In millions of dollars]

	Active	Reserve/Guard	Total
	CURRENT PROGRAM		
New GI bill	342	349	691
VEAP	316		316
Education assistance		19	19
Total	658	368	1,026
	ADMINISTRATION PROPOSAL		
New GI bill	467	140	607
VEAP	170		170
Education assistance		[1] 75	75
Total	637	215	852
Cost difference	−21	−153	−174

[1] The incremental cost of $56 million would be absorbed from within existing Reserve incentive programs.

ENTITLEMENT INCREASES

Senator STEVENS. We have each year asked your predecessor about the increase in the number of entitlements in the Defense bill in your area. Last year we added over 20 entitlements or increases in entitlements: temporary lodging expense, submarine pay, sea pay, demolition duty pay, experimental stress pay, flight deck pay, parachute duty pay, toxic fuels pay, toxic pesticides pay, overseas extension pay, and it goes on, over 20 of them.

Why cannot we make those, rather than entitlements, discretionary allowances that are controllable and are tied to productivity increases, management tools rather than entitlements?

You know, if we continue to increase the entitlements, we are going to have to reduce manpower or reduce procurement, one or the other. I can understand entitlements in pay, housing, subsistence, retirement and health care, basic concepts of employment, but not where a person is entitled to experimental stress pay as a matter of right based on some definition, or flight deck pay.

I guess that is because the people on the deck were not getting flight pay, so we got flight deck pay. If we get flight deck pay, why should we not have apron duty pay for the Air Force and why should we not have unloading duty pay for the Navy at the docks?

I just think these definitions are definitions for pay increases that are now creeping across the whole Department. There is hardly a category of employment that does not have a special pay supplement.

We have tried to raise the flag that this is just getting out of hand and yet I have to tell you that politically these things are harder to control than you can possibly believe. I would rather attack the battleships again than try to attack this.

We have been told that you have now proposed a new language skill incentive pay. My 3 years of college Spanish has not done me any good or anybody any good. I just remember taking it. I cannot even remember ever using it.

What good is it going to do to have someone sitting on a battleship taking a language that has no relevance to his actual Government duty?

Mr. Cox. Let me try to answer the first question you asked about the philosophy of it.

Philosophically I agree with you that we should try to have special pays that are discretionary as opposed to entitlements, because it gives you much more flexibility and it does not create requirements to pay when these skills are not needed.

I suppose that the principal reason that they are becoming entitlements is that the main purpose of these special pays is to motivate people to go into areas that they would not otherwise go into. Since we are not able to get them into those areas under the normal pay scales, we need that special incentive.

INCENTIVE PAY

Senator STEVENS. Mr. Secretary, isn't this one of those things, that once you start, you guarantee that you have to keep up?

Once you pay someone a special pay for something that really is not an extraordinary service, then you have to do it for other areas or they will not take those assignments either?

Are we so selective now that people cannot be assigned to duty in the military?

Mr. Cox. They can be assigned to duty, but there is a question of whether they go into—you cannot, for example, assign someone to be a pilot. Those people need to have the incentive and the desire to go out and train and do those jobs.

Senator STEVENS. I have to tell you, although I did not have much money in the days I went to training, I would have paid for it, I wanted it so much. The motivation is there in a lot of these areas. The problem is in the area where they are going to accept the assignment in any event.

There is a parachute duty pay. Is that what we used to call jump pay?

Mr. COX. Yes, sir, I think so.

Senator STEVENS. You get it whether you take jumps or not, I understand.

Mr. COX. I think you have to qualify. You have to take the job and qualify and keep your skills. You may not have to jump in combat to get it, but you have to qualify and keep your skill up on a regular basis.

Senator STEVENS. I understand some pay concepts. People who are on the Trident where they are gone for long periods of time away from their families and they are submerged, they are running a different type of stress than in ordinary submarine duty. I understand some special pay category for that type of service and it ought to be a highly voluntary concept, getting the people you can.

The same thing with some of the Air Force pilots.

I tell you we are having a real problem with this. I think the time is going to come when the Department of Defense is going to have to decide, does it lay off people and keep paying these special bonuses?

You ought to remember that we have added almost $4 billion in the last 2 years. We did not give it all to you last time, but I think it is $3.5 billion increase in the last couple of years.

Mr. COX. There is also an issue of retention, sir. In addition to saying, "OK, you are in the military, you go there," we are also trying to retain people in those special jobs that have the skill and have the experience and keep them from leaving us.

We have found that if we do not do something like this, we are not going to be able to retain, in the numbers we need, the people to do these jobs. There is that aspect of it, too.

COST CUTTING BY REINSTITUTING DRAFT

Senator STEVENS. I joined Barry Goldwater in introducing the first bill to do away with the draft. I am liable to be the first one to introduce a bill and seriously pursue it to put it back into effect.

I think the problem we have now is that we just have a continued escalation of the cost of the volunteer Army and Navy and Air Force and Marines.

Mr. COX. I do not think the draft is going to reduce the cost.

Senator STEVENS. The draft in the long run will. It will not in the short run, but it will in the long run. I will be glad to do it.

Military pay since I became chairman here in 1981 is up 56 percent. Special pay in the entitlement category is up 70 percent. That is despite the fact that I have tried to hold it down. These increases are really what is going to stop the modernization program because that is structural.

When you put in $3.5 billion, that is out there forever now unless we get some concept of dealing with entitlements. People talking about the budget, when they talk about entitlements, do not realize how much of the military budget is entitlements now.

We could not touch those without a change in the basic law. We must fund them once they are authorized. There is no flexibility in budgeting. There is no flexibility in administration.

If there is any service you can perform for the country, where you have the job you have, it is to design a system which is manageable and affordable that puts these special pays back in the area of bonus concept for performance and for actual extension.

I have to tell you that they are no longer just simple bonuses for the act of extension. They are bonuses for doing what a person agreed to do when he first came into the Service. I really believe it.

Mr. Cox. We can review those again. I think they were very heavily reviewed by the 5th QRMC. We are between the rock and the hard place in deciding if we are going to retain the experience levels we have in these special skills. Do you increase compensation across the board or do you try to focus in on something you really want to give special attention. Do you try to get more bang for the buck by going to special pays as opposed to across-the-board increases?

I think there is constant tension trying to come up with the proper balance there. I think maybe it has gotten out of hand with respect to special pays, but I cannot say for sure.

DEFENSE BUDGET SINCE ABOLISHING DRAFT

Senator STEVENS. Let us put it this way. When Goldwater and I introduced that bill to abolish the draft, which I recall was in 1974, somewhere around there, even at the height of the Vietnam effort, our Defense budget was about 30 to 35 percent of the total Federal budget.

We have had in terms of real dollar increases a substantial increase in that Defense budget. In terms of percentages it is still going down, but in terms of real dollars, it has really increased.

I really think we ought to find some way to see what would happen if we went back. I think I have asked GAO to study the cost implications on a long-term basis of returning to a draft.

Mr. Cox. Right. I think there are some other studies going on there as well.

Senator STEVENS. What are you going to do with this bill that the authorization committee has come up with on the Joint Chiefs of Staff reorganization?

It mandates a 15-percent reduction in service headquarters or administrative staffs. It is carrying forward into the authorization process Senator Rudman's TRIM proposal.

Mr. Cox. If it is made law, we will have to abide by it, sir.

Senator STEVENS. Do you have any position on it.

Mr. COX. Our position is that we are opposed to it. We think we have trimmed as much as we absolutely can, but we may have to trim more. If we are required to, I guess we will do our best to do that.

INCREASE IN HEADQUARTERS STAFF

Senator STEVENS. Before you make that statement, you ought to see how many Assistant Secretaries were here in 1981 when the President came into office and how many there are now.

Mr. COX. I do not think our Department has asked for any one of those Assistant Secretaries, sir.

Senator STEVENS. We turned down some of them, but they asked. I am not saying they are unjustified, but there has been an increase in personnel in the Pentagon and in the administrative staff.

Mr. COX. One of the interesting things about the Senate bill is that it places more administrative and budgeting responsibility in the headquarters and then tells us to reduce the headquarters staff.

It places a lot more administrative and budgeting responsibility on the CINC's, for example, and then tells us we have to reduce headquarters staff.

PERMANENT CHANGE OF STATION TRAVEL

Senator STEVENS. One of my staff tells me even though we cut $200 million in the final bill last year on the permanent change of station item, that through administrative action, you have been able to trim the 1986 requirement to $100 million less than that.

Mr. COX. Yes, sir.

Senator STEVENS. Actually it is $100 million less. There was a total reduction of $300 million for 1986.

How did you do that and are you going to carry that over into 1987 now or is that just a temporary savings due to reducing the number of moves?

Mr. COX. We are going to reduce it even further in 1987.

To answer your first question, how did we do it?

I do not think we did it in the most responsible way. We just said we are going to take a cut of this much and we looked at some of the things it could come out of and discussed it with the services and they said if we really have to do it, we can do it.

But the more responsible way, from a management perspective, would be to make some policy changes which would generate that kind of savings. We are now requiring the services to come forward with some recommended policy changes that will create even greater savings. And in our 1987 budget we gave them a target of an additional about 5 percent from last year.

That report is due to come up to you within the next month, sir. It will have some policy changes in it to create some more savings in this account.

Senator STEVENS. Let me interrupt you.

I understand the indication you are asking for almost $100 million back in 1987. That is the reason for my question. Because of the increases in household goods weight allowances alone, you need almost $100 million more for 1987 if those allowances are increased as you request.

Is that right?

Mr. Cox. I am sorry, sir. I do not have specific knowledge of that.

Senator STEVENS. We denied such increases last year. That is one area where there was denial in the entitlement area.

This is an entitlement area?

Mr. Cox. Yes, sir.

Senator STEVENS. Once it becomes fixed, it becomes an entitlement that is payable based on the number of moves.

Why should there be such a substantial increase in household goods and weight allowance.

Will that be covered in the PCS report?

Mr. Cox. I do not think that specific increase will be covered by that report. But we will have it covered in the report if you want it.

Senator STEVENS. I hope it will. I have seen situations where people move into my State at Government expense and then they sell their furniture there before they go to the next station, which means that they have taken a real profit for the federally subsidized transportation, which I support, the concept that they should have the allowance for moving their goods.

But when they sell it, should they not repay the Government for the cost of transporting it up to the place where they sell it?

Mr. Cox. If people are abusing the system, they should be stopped. There should be some ways to deal with that abuse.

I do not think because there is an abuse here and there that we need to deprive the other people of the things that they are entitled to.

Senator STEVENS. Could you not make a selective study, picking people at random and finding out that they made several moves and how many pounds of personal goods they moved each time?

Mr. Cox. This might be a worthwhile thing to study if it is prevalent.

Senator STEVENS. It is a substantial thing. To move household goods at Government expense, particularly to overseas areas, and I also think some areas within the United States, they have a substantial differential as far as the cost of those goods in the area to which they go.

I think you will find a lot of people sell them rather than move them again. I do not blame them.

Mr. Cox. My staff has come to our rescue again. They advise me that we are doing such a study.

Senator STEVENS. That is good. I will be interested in seeing the outcome of that.

SMOKING AND HEALTH IN SERVICES

Lastly, I want to congratulate everyone that comes along that has had anything to do with this recent study on smoking and health in the military.

When I started to go into the question of compliance by the Federal Government with State laws with regard to designating smoking areas, I was staggered with the statistics I got concerning smoking in the military.

I was also staggered with the estimates that I got from the medical association concerning the cost of smoking to the Veterans Administration.

I am really delighted to see that the Secretary has taken the lead now on an effort to reduce the use of tobacco by our military, particularly cigarette smoking, and to try to bring home to the military people the effect on their future lives of this abnormal amount of smoking by people in the military.

I understand you were involved in that effort?

Mr. Cox. Yes, sir, I was. I fully support his decision. I intend to address it and make sure that it is implemented effectively.

Senator STEVENS. Some of us view that as a good decision and a good first step in doing something about this problem. I want to ask you to keep us informed if there is anything we can do to legislate changes in policy.

I am sure you know we had the amendment dealing with the cost of cigarette sales on bases last year and that was eliminated in conference. I still do not know why cigarettes should cost so much less in military commissaries and exchanges.

Frankly, I do not understand the military's attitude because the fact of the matter is what they pay for the cigarettes, the so-called earnings, would go into the nonappropriated funds, would be used for day care centers and golf courses and various things that we do not use Federal funds for.

I do not understand why the pricing policy is as it is. I can understand it on board ship or in an assignment overseas perhaps, but I just cannot understand it in this country.

I do not know why there should be that fantastic differential in cost of cigarettes on base. I hope beyond the antismoking campaign that you have going on, you will look again at the pricing policies and how they affect your area of personnel.

Our studies showed us that a substantial portion of the problems that take people to VA hospitals is cigarette related.

Mr. Cox. We did a study, too, sir. I do not know if you have seen that study (it was sent up here by the Secretary) and it confirmed what you are saying.

Senator STEVENS. Anything you can do in that area, again I think that you will be contributing to the health of military members and their families and reducing in the long run the cost of absenteeism in your area.

Mr. Cox. I appreciate your support, sir. We will continue to follow it.

CONTRACTING OUT

Senator STEVENS. We have tried to watch the Department policy on contracting out. I understand that there is some indication that the Armed Services Committee wants to repeal the appropriation provision which requires an analysis for organizations in excess of 10 personnel before contracting out.

Are you familiar with our provision from last year?

Mr. COX. Yes, I am somewhat familiar with it. If there are more than 10 people, you do require a study to confirm 10-percent cost differential.

Senator STEVENS. Is that burdensome?

Mr. COX. The burdensome part of it is how it is applied in smaller organizations. It deters the study from being done in organizations where there are less than 100 people, if it is done with the same degree of thoroughness and comprehensiveness that it is done in a large organization of 1,000 people.

I think that is the problem, that there is not a more modest kind of study that could be done. I think it is proper to have a study and not just willy-nilly go contracting out if you are not going to save money.

But the requirements are so rigid and difficult that it makes it harder in smaller organizations.

CONTRACTING OUT PROCEDURE

Senator STEVENS. My understanding was of the prior studies on the contracting out procedure that only about half of them were actually contracted out.

The bulk of those contracted out were, in fact, in the small functions where the cost is greater to the Government to administer a contract. The cost of administering a small number of people, less than 10, is substantially greater on a per capita basis than the cost of managing a larger function.

It seemed that it was not just contracting out in little areas and saying, let us get rid of that from a management point of view. People were anxious to get rid of small numbers of tasks even though the total cost to the Department was higher under contracting out.

Mr. COX. It does not make sense to me. If that is the case, it should not be happening.

I think another thing that is a problem with the studies is that, after a function is studied on one base and it is clear there are 15, 20, or even 30-percent savings, it does not make a lot of sense, if you know what your contract bids are going to be, to study that same function on another base where it is done the very same way with the very same number of people. You already know that you are going to be able to make a large saving.

I think that is another reason for an effort to get rid of the studies where you know from experience that you are going to be able to save 20, even as much as 30, percent with respect to a certain function; you ought to be able to do that.

This gets back to my comment about the rigidity of the requirements relating to the cost studies in many cases being inefficient.

CONTRACTING OUT STUDIES

Senator STEVENS. I am told you have almost 2,000 people in the Department who are now associated with studying of contracting out. That is sort of one of those resistance kinds of things, that in order to keep their job, they are going to have to continue studying contracting out.

The contracting out examples that I am familiar with, I know of a small mess hall in one of the bases in my State that was contracted out rather than having civilian employment. The first contract unquestionably was a savings to the Government because they brought people into the State that had never lived there before and accepted the job before they realized the high cost of living. By the time they got to the second and third contracts, the costs were off the wall.

It does seem to me that there has to be some analysis of the impact downstream of these decisions. The initial savings, there is no question about it, they are taking high initial savings.

I think the long-term costs are instability and this is particularly so where the type of contracting out is in the janitorial, mess hall service, barracks maintenance type of things.

It is very easy to reach out into a job market in which there is a surplus of such people available and ask them to take employment. They move into the area. Once they are there, then they have the same cost of the people who were there already performing the job and it is not very long until the costs are heavier than they would have been in if they had kept them initially in house.

I am talking about the civilian contracting out. You are studying almost 100,000 positions that are identified and your goal is to have 10,000 a year contracted out. Fifty-seven percent of the positions studied so far have, in fact, been contracted out.

Mr. COX. If you figure that in each one of those there was at least a 10-percent savings, I think it is worth the effort.

Senator STEVENS. In my judgment, it is a temporary saving. I can remember so many companies that have come into my State and every time they come in, they come in with an initial cost of less than the people they represent, but before they are there. Particularly when they have the concept of having to make a profit for the basic company that they are a subsidiary of, they end up costing a great deal more in the long run for that kind of operation they are engaged in.

We are not contracting out flying airplanes.

Mr. COX. Yes, sir, I know. But if you do not analyze it again every so often and hold people's feet to the fire, to the competition, it will be a temporary savings.

Senator STEVENS. Do you make a study to see how many positions we give special pay to, to get people to do that, we might be able to contract out?

I am not serious. There are a lot of them. These things about pesticide areas, the special pay concept that we have in terms of the toxic fuel pay, this experimental stress pay, why shouldn't you find out who in the civilian community can take that on instead of taking on the routine jobs?

These jobs they are contracting out are basically the routine jobs, the routine, as I said, of maintenance and service. They are laundry jobs, they are the maintenance of the generating facilities, maintenance of the heating plant, maintenance of barracks, service in the mess halls.

Everything I know of that has been contracted out up my way has been in the service area and has resulted in an influx of people from other areas of the country coming in at very low pay and suddenly being very disgruntled and they end up with all kinds of things, including strikes.

I am not sure we ever made a study of the incident of strikes and how they applied to contracting out. We have had strikes of personnel who found out they cannot live on what they are being paid.

I really think this contracting out is not as open-and-shut a case in terms of saving as the Department makes it. I do not think most of you understand our opposition.

Mr. Cox. We will be happy to do a study along the lines you have requested, and see if there are any areas that we can contract out that we are now paying for.

PREPARED STATEMENT OF SENATOR D'AMATO

Senator STEVENS. Senator D'Amato had some questions he wanted to ask. He is involved in the debate on the floor. I have asked him to come, but he has indicated he cannot come now.

We will save a place in the record for his statement and ask if you will respond to his questions, understanding that we have a new concept that if they require more than 2 man-hours to answer any of them, let me know and I will confer with Senator D'Amato.

Mr. Cox. All right, sir. I appreciate your concern.

[The statement follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I thank Chapman Cox, Assistant Secretary of Defense for Force Management and Personnel, for coming before this committee today.

One of the highlights of our Armed Forces modernization program has been the excellent quality of the recruits and the strong morale of the troops. I commend the work you have been doing in this area. The President has shown his commitment by exempting the personnel accounts from fiscal year 1986 Gramm-Rudman-Hollings cuts.

The task of improving our forces in the early 1980's was monumental. The quality and quantity of our Active component suffered greatly in the 1970's. This has been reversed in the past 5 years. Our troops are now better trained, in a better state of readiness, and have a higher morale. I am especially impressed by the ability of our Armed Forces to meet their recruiting goals; this is in spite of a continued strong economy and lower unemployment rates. Equally impressive is the increasing quality of our recruits today. Ninety-three percent of the recruits last year earned a high school diploma, whereas only 68 percent of the recruits in 1980 had attained high school diplomas. Retention rates for enlisted personnel also have been encouraging, increasing from 69 percent in 1979 to 84 percent currently enjoyed.

I am concerned, however, that the President's proposal to end the new GI bill will seriously erode the accomplishments of the last 5 years. It must be remembered that the size of the pool of eligible youth is shrinking. The GI bill is a prime avenue for disadvantaged youth to earn a college degree. With cuts in other financial aid programs, those ex-GI's who wish to attend college may no longer be able to do so.

In peacetime, we must provide incentives for our youth to serve our Nation. Even though you plan to resume the Veterans Educational Assistance Program, I believe the Armed Forces will lose many highly qualified personnel by the elimination of the new GI bill.

Congress will have to make serious choices this year to meet the budget goals stipulated in the Gramm-Rudman-Hollings deficit reduction law. I look forward to working with you, Mr. Cox, as the budget process moves along.

Thank you, Mr. Chairman.

EUROPEAN TROOP STRENGTH

Senator STEVENS. You want to repeal the ceiling on European troop strength?

Mr. COX. Yes, sir.

Senator STEVENS. Why?

Mr. COX. Because it creates inflexibility in implementing our operations plans and our strategic plans over there.

Senator STEVENS. Those limitations are the only thing that stopped the Department from getting into another round of the Mansfield amendment that would have demanded withdrawal of a substantial number of troops in Europe. By putting reasonable limitations on expanding the troop numbers, we avoided that.

I remember voting against all of the Mansfield amendments. Even though I had very high regard for him and his position, I opposed it. Most members of this committee opposed it while he was a member of this subcommittee. At the time he sought to impose those limitations, we were talking about reducing from about 280,000 to 140,000 or 150,000 which was his amendment which was defeated.

Now we are up to 326,000 because they do not count Navy personnel assigned to ships. They are exempt.

There a is one-third increase in the period of time of that underlying resistance to the whole concept.

Mr. COX. Our objection is that what was originally intended to be a shield has become a sword. It has prevented us from doing some things with respect to the changing threat over there that we think are very important to do.

For example, with respect to the personnel assigned to the ground-launched cruise missile, we had a very difficult time in moving additional people in there to man that weapon system because of the end-strength ceiling. That is the reason for the requested relaxation of the ceiling.

I think that it is still incumbent on us to manage the troop strength there properly, to balance it, and to have the support of this committee and the other committees in the Congress that what we are doing is right. But we see that the limitation that was placed on us—basically, as you say, as a friendly limitation—is now being used by those folks who do not like our initiative over there, to try to deter us from doing that. It makes it more difficult for us to support our allies.

U.S. PERSONNEL IN NATO

Senator STEVENS. Somehow or other I think your people better get their ears to the ground. I hear more conversation right here in this subcommittee about not just limiting, but mandating reductions in Europe.

If you really look at it today, the taxpayers of the United States are supporting by the latest estimate approximately 1 million people on the continent associated with NATO, with the military people—including the Navy—military dependents, DOD civilians and their dependents, and in-country employees. That is a substantial group of people being maintained on the continent today associated with that basic assignment of 320,000-odd people.

I have to tell you that the cost of that is substantial, too. We had the Department study that once. Senator Stennis did that and it was a most revealing study. You ought to take a look at it.

One time we took the subcommittee over there and we found in one town alone they had 70 instructors to teach German to the dependents of people who were assigned to that base. Seventy instructors that were paid for by the taxpayers' funds to teach those people how to speak German.

Now we have a proposition if they learn how to speak German, we would pay them a special bonus pay because they have.

Mr. COX. Sir, there is no denying it is a large cost. The question is: is the cost worth it? We believe the security of Europe is.

DEPENDENCY ON GUARD AND RESERVE

Senator STEVENS. We have made some suggestions that we increase the utilization of Guard and Reserve forces over there on a temporary basis as we have in Honduras and Central America. You do not have the attendant cost, the need for the employment of so many people in-country, the needs for transporting dependents, or the need for providing special services for the dependents.

I would ask you to take a look at the cost of transporting the children of people assigned in Europe to go to school, just the cost of transportation.

Mr. COX. The question is: if you do that, will you have the same capability? There are a lot of ways to reduce capability and save cost.

Senator STEVENS. The interesting thing is that is what Great Britain does, by and large. You will find most of our allies are relying on the Guard and Reserve. We are relying on permanent personnel. I think it would be wise to take a look at where the non-U.S. personnel are coming from in NATO.

Mr. COX. It is my understanding that the NATO countries have over 3 million of the active force in Europe. Ours is somewhat around 10 to 20 percent of that.

Senator STEVENS. They are active in the sense they can report to duty every day because it is their country. They are basically serving at home. I think they rely on Guard personnel to a much greater extent than we do.

Mr. COX. They do have a great reliance on Guard and Reserve as well. They have a very great force over there.

Senator STEVENS. I hope that you really assess the down side of taking off the limitation, and the substantial increase in troop strength in Europe. Otherwise, we will again face a Mansfield-type amendment to reduce them by substantial numbers.

Mr. COX. We are looking at the end-strength issue pursuant to the direction of the Congress. We have a report that is due in August on that. I will take very careful interest in that, myself, personally, sir.

Senator STEVENS. Thank you. It is a pleasure to see you. We wish you well in your new assignment. We look forward to working with you.

SUBMITTED QUESTIONS

The committee has additional questions which we will submit for your response.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR COCHRAN

RETIRED COLA

QUESTION: Secretary Cox, your statement is very positive in its tone, and it appears that you recognize that the most important "system" in the inventory of the Department of Defense is the individual. Advances in training and education, productivity enhancing equipment, emphasis on quality of life, and recognition of the family needs, all serve to build and maintain a force of capable personnel. There is one group, however, who may not be receiving adequate attention. You indicate that officer and enlisted shortfalls in time of war will be addressed in part by the use of retired personnel. I wholeheartedly agree that this component of the total military force will be invaluable in time of need. My concern, and the concern of literally hundreds of my retired constituents, is that, while pay raises continue for the active duty personnel, the retired pay cost-of-living adjustments, deleted by Congress for FY 1986, are not now planned for the next several years.

What is your position on retired COLA?

ANSWER: We fully recognize the importance of COLA adjustments in maintaining the value of military retired pay and its consequent survivor annuity. This point has been stressed repeatedly before the Congress, both by Department of Defense officials and those of the Military Departments. We have strongly supported an adjustment mechanism, reflecting changes in the cost of living, as protection against economic pressure. As Secretary of Defense Weinberger has said, "We have tried to keep retired pay (the way it should be) on the basis of fairness for those who have served their country so well."

As you realize, our country faces significant economic challenges. Reducing the federal deficit and securing fiscal stability are primary objectives of the Administration, goals which the Department of Defense fully supports. Nevertheless, even as we cooperate to set our financial house in order, we will continue to advocate that military members and their survivors must not be penalized by virtue of their career military service. We will continue to urge fair and equitable treatment of both active and retired military personnel.

DEPENDENT DENTAL CARE

QUESTION: Dependent dental care, since it is space available, and active duty dependents have priority over retired personnel, has greatly reduced dental care for retirees in many areas. How are the needs of retirees being considered in the implementation of this program?

ANSWER: The Department is planning to put into effect the dental insurance program authorized by the Congress in the FY 1986 Department of Defense Authorization Act, subject to the appropriation of funds by the Congress. This program is a cost-shared dental insurance plan limited to dependents of members of the uniformed services in an active duty status. Its benefits are restricted to diagnostic, emergency, preventive and diagnostic services, but this care would be guaranteed and timely. It is also the bulk of the care required by this population. We expect the great majority of active duty dependents to enroll in this program and, if that happens, these beneficiaries will be prohibited from using military dental clinics for those services provided by dental insurance. This in turn will free more capacity that will be available to other beneficiaries, including retired members in particular. Thus, should the funding be provided for this dental insurance program, DoD retirees will benefit from the lessened demand on dental clinic services from other non-active duty beneficiaries.

BENEFITS FOR RETIRED MILITARY PERSONNEL

QUESTION: In view of the increased planning for utilization of retirees in time of war, what is the Department doing that will benefit retired military personnel? In other words, what can we tell our constituents that goes on the plus side of the ledger?

ANSWER: As with the active force management, the Department has concentrated on items to improve the quality of life for retired members. In concert with the Veterans Administration, we have supported an increase from $35,000 to $50,000 in the Veterans' Group Life Insurance program. That statutory increase was made available in December 1985. Recognizing that military estate items should be improved, the Department has proposed legislation to raise the 1956 maximum rate of the death gratuity payment from $3000 to $9000. Also, we have seen repeated enhancements of the Survivor Benefit Plan in terms of cost to the member and benefit to the survivor. The most recent were the SBP amendments in the FY 1986 Defense Authorization Act (Public Law 99-145), which replaced the complex social security integration with a two-tier annuity system. Further, we have streamlined operations within the Services to be responsive to retired members. "Hotlines" have been installed at the military personnel centers and at the finance centers to offer assistance and information to individual retired members, if they need help. Along that line, each Service provides to each retiree a monthly, or bimonthly depending on Service, publication explaining any changes in retired entitlements, benefits, or services. In sum, we are supporting retired members in tangible terms through improvements in military estate items, and in intangible terms through improved information and personal service.

NEW GI BILL

QUESTION: Mr. Secretary, you indicated that you are proposing a termination of the three-year test of the GI Bill, and a return to the Veterans' Educational Assistance Program (VEAP). Could you describe each, highlighting the differences, and indicate why the Department is willing to settle for a lesser program, while indicating that recruiting in FY 1986 and beyond may become more difficult?

ANSWER: The following chart delineates the characteristics of VEAP and the New GI Bill:

Similarities	VEAP	New GI Bill
Time limit use	10 years after separation	10 years after separation
Convertible	No	No 1/
# months of benefits	36	36
Transferable	No	No
Differences		
Leave of absence	No	Up to 2 years. Payback-2 mos. for each mo. used
Admin/Funding	VA/Service	VA/Basic-VA, Reserve and kicker-Services
Selected Reserve	No	6yr. obligation /$140 per mo./ 36 mos.
In-Service use	After 6 yrs. or initial tour	After 2 yrs. active duty
Contribution	$2700	$1200
Basic benefit	$8100	$10,800
"Kicker" benefit	Option/Service	Up to $14,400 for critical skills

1/Ch. 34 participants may convert under certain conditions.

We do not believe that VEAP is a lesser program. As with the New GI Bill, VEAP provides a basic benefit and has provisions for "targeted kickers." Under VEAP, recruiting goals were met and the quality of accessions was high. As part of the total compensation package, VEAP provided a satisfactory recruiting incentive. The results achieved by VEAP combined with the lower cost to DoD have confirmed our decision to terminate the New GI Bill.

QUESTIONS SUBMITTED BY SENATOR STENNIS

GRADE GROWTH

QUESTION: Grade growth or grade enrichment calculations measure the dollar cost of changes in the grade distribution in the active duty force. If the proportion of higher graded personnel in the force increases, we have growth, and the added cost of this "richer" mix of personnel can be measured.

CBO has compared the latest DoD estimates of 1986 and 1987 military strengths and compared $165 million of grade growth in the 1987 budget.

	$ Millions
Army officers	50.7
Marine Corps officers	1.3
Marine Corps enlisted	10.7
Air Force officers	14.4
Air Force enlisted	87.4
	164.5

When computed from 1985, the last full year of actual experience, grade growth is much greater—the 1987 cost is $250 million.

	$ Millions
Army officers	50.5
Army enlisted	14.8
Marine Corps officers	16.5
Marine Corps enlisted	29.3
Air Force officers	5.1
Air Force enlisted	135.0
	251.1

The grade distribution of all services, except the Navy seems generally to reflect grade growth between 1985 or 1986 and 1987. The Navy has no grade growth in any year, while the Air Force has more than half of the computed grade growth. Why do we need grade growth or grade enrichment?

ANSWER: Grade growth or enrichment is a by-product rather than an objective of the manpower and budget process. Manpower requirements determine the grade and skill content needs of a Service to accomplish its missions. The Department and the Congress have been working together since 1980 to correct career force shortages. Our success in improving the attractiveness of a military career is demonstrated by the higher grade content. Much of that growth was and is needed to meet existing requirements. Additionally, all of the Services are undergoing considerable technological and operational changes--more sophisticated weapons systems and decentralized decision making on the modern battlefield require more experienced leaders at lower levels. Thus, filling existing shortages and responding to new requirements have caused grade growth. Personnel managers must take action well in advance of the projected requirements to build the force that can meet future grade and skill content. However, the budget process annually determines what resources will be available to support each Service's grade and skill requirement. Occasionally, end strength and funding limitations do not support the grade and skill content that the Services planned for and that the personnel managers have already begun growing. The actions taken to meet the lower end strength and funding level normally reduce accession and retention of the first term and lower-graded force, thereby causing enlisted and officers senior grades to be a higher percentage of the total force than was intended. If the end strength requirements of the Services were met as planned, the content of the force would appear less "top heavy."

QUESTION: Why can't we manage our manpower to avoid these added costs?

ANSWER: Manpower costs are a response to requirements. The means to reducing manpower costs is through reduction in manpower requirements--finding less manpower intensive ways of performing our missions or reduction in the missions to be performed. In other words, manpower in and of itself cannot be managed to avoid added costs. The Department must respond to the requirements and we in manpower try to minimize the cost of meeting that requirement.

QUESTION: Why does the Air Force need so much grade growth, while the Navy has grade declines?

ANSWER: A force is developed over a considerable period and each Service is at a different stage of development at different times. Looking at two or three years of trends does not clearly reflect force trends for any one Service or provide an adequate period for comparison. For instance, if we look at the change in the Top 5 enlisted grade content compared to the rate of change in end strength across Services from 1980 to 1987, a better picture of Service force trends can be gained. The following table shows the numeric and percentage changes by Service:

Change in Top 5 Enlisted Grade & End Strength--1980 to 1987

		Change	
		Top 5 Content	End Strength
Air Force			
	Number	36,796	37,135
	Percent	18.6%	8.1%
Army			
	Number	23,990	- 7,420
	Percent	9.4%	- 1.1%
Marine Corps			
	Number	9,320	9,733
	Percent	19.6%	5.7%
Navy			
	Number	47,595	56,095
	Percent	25.4%	12.2%
DoD			
	Number	117,701	95.543
	Percent	17.1%	5.4%

The Navy has the greatest growth in Top 5 content and the Army the least, and the Navy has the largest increase in end strength and the Army actually declines in size. Yet, if we look at the ratio of change in end strength to a change in Top 5 content, we find that with the exception of the Army, the Services have quite similar Top 5 growth patterns. The Army made the decision to hold its end strength relatively steady in order to maintain its modernization time table; however, the Top 5 continued to grow in response to senior grade requirements. Therefore, analyses of two or three years do not meaningfully depict manpower trends. Using a longer period for analysis more readily surfaces the similarities among and differences between the Services.

OFFICER/ENLISTED RATIOS

QUESTION: The Congressional Budget Office (CBO), in its recent publication Reducing the Deficit: Spending and Revenue Options suggested that $102 million might be saved in 1987 and $3.2 billion between 1987 and 1991 by reversing one-half of the decline in the officer-enlisted ratio that has occurred since 1977. CBO has stated that the declining officer-enlisted ratio does not appear to reflect changing military requirements.

Please explain the reason for this declining ratio. What would be the impact, if the CBO proposal were approved?

ANSWER: A GAO letter to the Chairman, Subcommittee on Defense, Committee on Appropriations in September 1982 stated: "We believe that there is very limited value in using the ratio of enlisted-to-officers to measure growth or excess." We agree with GAO's conclusion that "such comparisons have limited usefulness and may produce erroneous judgments about the composition and effectiveness of our military forces." It is the DoD position that the size and mix of the officer and enlisted force shall be determined based upon a detailed assessment of our military requirements. In recent years, equipment modernization and technological advances as well as force structure changes and the maintenance of a larger mobilization cadre have all impacted on the resulting "statistic" of enlisted-to-officer ratio. Likewise, management of high technology systems such as high speed computers, complicated missiles and laser technology for multi-million dollar weapons systems requires a greater concentration of management and supervisory personnel and thus has a significant effect on the enlisted-to-officer ratio. Finally, many officer billets were unfilled during the late 70's when officer retention rates bottomed out. Thus, a significant percentage of the officer increase has been utilized to fill these previously gapped billets in all of the Services.

Since the requirements for officers have risen vis-a-vis enlisted requirements during this time frame (FY-77 to FY-86), it follows that the ratio has declined. However, any imposition upon the officer personnel management system to meet a contrived and arbitrary ratio as a goal detracts from combat readiness. For example, the proposed decrease of 17,000 officers would reverse the current trend of this administration to modernize and stengthen the military forces. This reduction would put officer personnel levels back to those in FY-82.

It is difficult to determine the means by which the CBO intended to make the proposed reduction of 17,000 officers over three years. The referenced publication implies that the reduction would be effected by constraining the number of officer accessions. However, accomplishing the reduction in this manner would provide a cumulative five-year savings of approximately $1.904 billion. Effecting the reduction in this way creates a significant officer manpower problem downstream in the officer promotion flow system. This shortage of officers in these three consecutive cohorts would create a valley thet would become more pronounced throughout the life cycle of these officer groups and would manifest itself in critical shortfalls of mid- and senior-grade levels in the ensuing decades.

If the CBO intended that the reduction would be done uniformly over three years and proportionally based on the size of each Service and each grade, then the cumulative cost savings would be approximately $2.821 billion. However, inherent in such a reduction are tangible and intangible costs which would reduce the savings/benefits. The tangible costs include retirement/retainer pay for those officers eligible to retire, separation/severance pay for those officers with at least five but less than twenty years of service, and terminal leave and relocation pay for all of the officers. These costs amount to about 15% of the original savings leaving a net savings over five years of $2.404 billion. The intangible costs include those items relating to combat readiness mentioned previously as well as the possible lowering of morale and a concomitant decrease in officer retention rates, an occurrence that would only exacerbate the situation.

Accordingly, we continue to seek support for our requests for officer personnel based on valid requirements that enhance combat readiness. We strongly oppose the application of artificial ratios such as enlisted-to-officers, etc., which we believe are improper "yardsticks" for determining the optimum mix of officer and enlisted personnel.

SUFFICIENT MILITARY MANPOWER

QUESTION:

Secretary Cox,

In your statement, you say:

> "End strength levels should not be constrained below the level sufficient to man the force, as they have been the last three years." (Page 2)

You are saying that the force has been undermanned for the last three years. Please tell us what elements of the force have been undermanned for the last three years and how many personnel spaces are involved.

Does your current budget request provide added manpower to alleviate these problems?

ANSWER: When we submit our budget each year, it contains the resources necessary to man a specific force structure. This force structure is designed to counter the threats to national security. It is never a force structure without some calculated risk, because a structure with minimum risk would be too expensive in peacetime. For the last several years, we have not received all of the manpower resources that we requested in our budgets. Each time that happened, we did not have the necessary manpower to man the force structure as planned. This required us to adjust the planned structure to accommodate the resources actually provided by Congress. This adjustment process insured that no functional area in the resulting force structure for a particular year was left undermanned. This lead instead to a shortfall in planned capability each year that all requested manpower was not provided and also the assumption of more risk to our national security than we anticipated when we submitted the budget for a particular year. The force structure which is the basis for the FY 1987 Budget is slightly different than any previous one. The manpower resources in the FY 1987 Budget are for that structure, not any previous one. If we do not get the manpower to man that structure to acceptable levels, we will adjust to accommodate the lower manpower levels, as we have done in the past. The result, however, will be a force that is less capable than the one envisioned in the President's Budget, and the risk to national security will be higher than we recommend.

SUBCOMMITTEE RECESS

Senator STEVENS. Our next hearing of this subcommittee is a joint hearing with the HUD-Independent Agencies regarding NASA and the Air Force on the question of accessibility to space. That will take place March 26 at 2 p.m.

Thank you very much.

[Whereupon, at 11:20 a.m., Wednesday, March 19, the subcommittee was recessed, to reconvene at 2 p.m., Wednesday, March 26, 1986.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1987

TUESDAY, JUNE 3, 1986

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Ted Stevens (chairman) presiding.

Present: Senators Stevens, Andrews, D'Amato, Proxmire, and Sasser.

DEPARTMENT OF DEFENSE

DEPARTMENT OF THE AIR FORCE

STATEMENTS OF:

HON. THOMAS E. COOPER, ASSISTANT SECRETARY OF THE AIR FORCE, RESEARCH, DEVELOPMENT, AND LOGISTICS

LT. GEN. BERNARD P. RANDOLPH, DEPUTY CHIEF OF STAFF, RESEARCH, DEVELOPMENT, AND ACQUISITION

BRIG. GEN. THOMAS FERGUSON, ARMAMENT DIVISION, EGLIN AIR FORCE BASE

AIRCRAFT PROCUREMENT AND RDT&E

OPENING STATEMENT OF SENATOR STEVENS

Senator STEVENS. The subject of today's hearing is aircraft, related equipment procurement, and associated R&D programs. These programs comprise nearly $25 billion, about 25 percent of the total Air Force budget.

The fiscal year 1987 request includes several new starts and expanded programs such as the C-17, F-15E, F-16, advanced tactical fighter development, AMRAAM missile, and LANTIRN. This hearing will focus on these programs which are experiencing significant growth.

Of particular importance today, gentlemen, is your ability to live with fewer resources. Activity on the budget resolution in both Houses indicates significant reductions will be made in the defense budget. Our job will be to find options to live with less resources. With that in mind, we hope you will attempt to clearly prioritize your requirements.

We are pleased to have with us today Dr. Tom Cooper, the Assistant Secretary of the Air Force for Research, Development, and Logistics, and Lieutenant General Bernard Randolph, the Deputy Chief of Staff for Research, Development and Acquisition. I understand you are accompanied by Brig. Gen. Thomas Ferguson, the AMRAAM Program Manager who will make a brief presentation. We look forward to the presentation he has for us.

We will print your complete statements in the record and will be pleased to have you make any statements you wish.

We are competing with the second day of television. So maybe the magnet has been changed as far as action in the Senate is concerned, Tom. But we still need a record here to go by in terms of what we are going to deal with insofar as this action on this reduced budget.

We will be pleased to have your participation.

Dr. COOPER. Thank you, Mr. Chairman.

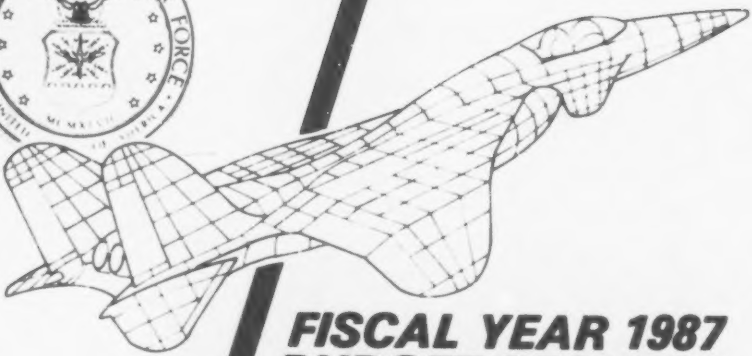
I wore my red tie today in anticipation, but I guess it was for naught.

We do have opening statements for the record. I will dispense with my remarks and I would like to yield my time to General Ferguson who has a brief presentation to make on the AMRAAM Program. That is a program with great congressional interests. We have a good story to tell. I think it is important for the committee to hear General Ferguson's presentation.

I would like to turn it over to General Randolph who has 5 minutes of introductory remarks and about half a dozen slides to put our budget in context and then we will be ready for your questions.

Senator STEVENS. General.

DEPARTMENT OF THE AIR FORCE



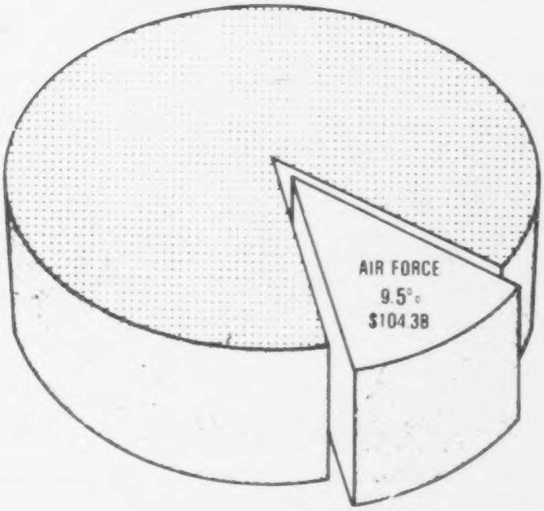
FISCAL YEAR 1987 BUDGET REQUEST

Lt General BERNARD P. RANDOLPH

DCS/Research, Development & Acquisition
Headquarters United States Air Force

SLIDE 1

FISCAL YEAR 1987
FEDERAL BUDGET AUTHORITY REQUEST
TOTAL: $1.102.0B



SLIDE 2

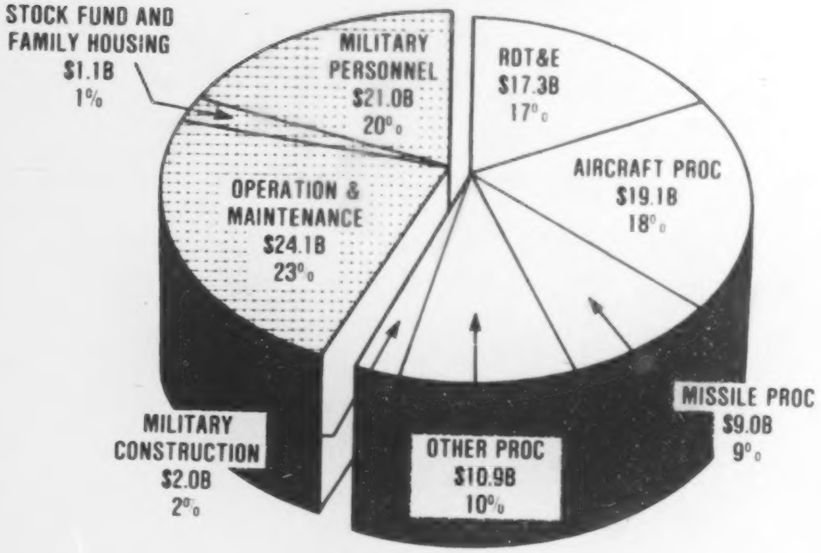
AIR FORCE AIRCRAFT PROCUREMENT BUDGET

General RANDOLPH. Thank you, Mr. Chairman.

The budget discussion we are talking about today is about 10 percent of the Federal budget involving the Air Force.

USAF FISCAL YEAR 1987 BUDGET REQUEST BY APPROPRIATION

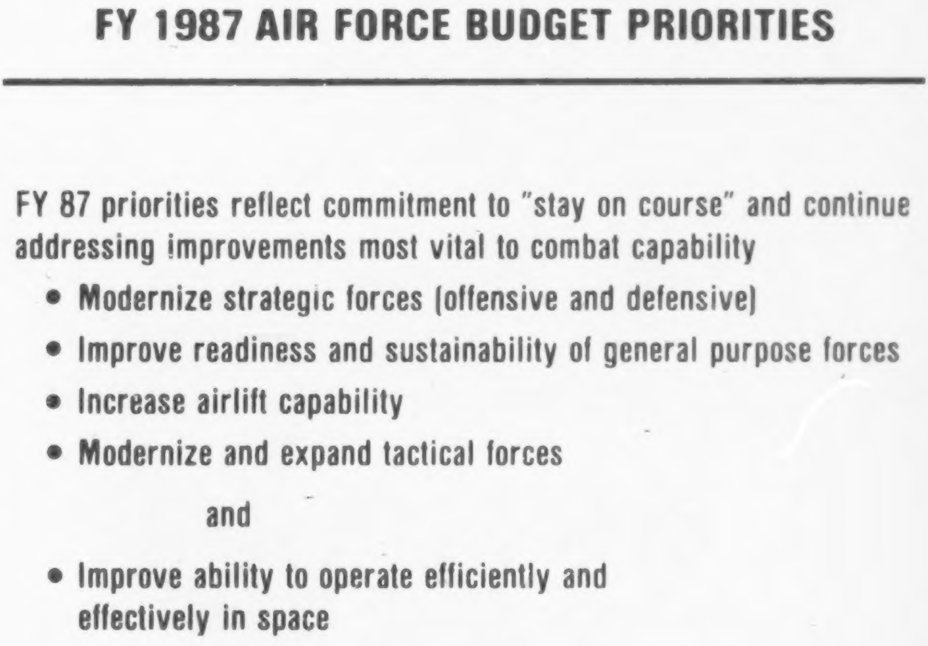
TOTAL: $104.5B



SLIDE 3

PIE CHART

The next chart shows the next piece, the piece that we will want to discuss today, and that is the aircraft procurement which is $19.1 billion that the Air Force requests and part of the missile procurement, primarily concentrating on the tactical missile procurement area.



FY 1987 AIR FORCE BUDGET PRIORITIES

FY 87 priorities reflect commitment to "stay on course" and continue addressing improvements most vital to combat capability

- Modernize strategic forces (offensive and defensive)
- Improve readiness and sustainability of general purpose forces
- Increase airlift capability
- Modernize and expand tactical forces

and

- Improve ability to operate efficiently and effectively in space

Slide 4

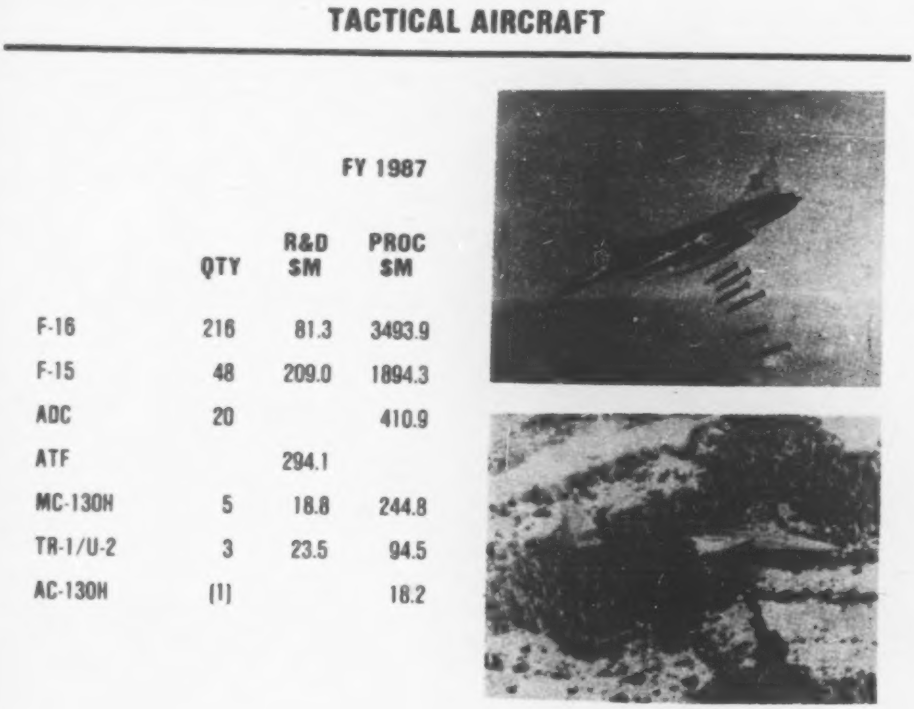
AIR FORCE BUDGET PRIORITIES

With regard to the priorities that you mentioned, this next chart shows the general priorities that the Air Force has established, the modernization of the strategic forces, of course, with the B–1 and the Peacekeeper reaching their initial operational capability this year, this calendar year.

The improvement in readiness in the tactical forces has been quite spectacular over the past several years. As you may recall, right now our tactical forces on the ramp are about 85 percent of all the airplanes or mission capable at any given time. That is probably one of the highest readiness records that we have achieved in quite some time.

Airlift capability. The C–5B is now flying the line. We will have nine of those airplanes flying this calendar year. The modernization and expansion of the tactical forces is proceeding with the F–16C's now coming on line. I will be talking a little bit about that when I get into the specifics.

Of course, the operations in space are moving along quite smoothly with the consolidated operations center coming on line this calendar year to actually control and operate the GPS satellites.



TACTICAL AIRCRAFT

FY 1987

	QTY	R&D $M	PROC $M
F-16	216	81.3	3493.9
F-15	48	209.0	1894.3
ADC	20		410.9
ATF		294.1	
MC-130H	5	18.8	244.8
TR-1/U-2	3	23.5	94.5
AC-130H	(1)		18.2

SLIDE 5

TACTICAL AIRCRAFT

This chart talks to the tactical aircraft. As you can see, the numbers we are requesting, in the column to your left, and then certain development money being requested, and finally, the procurement funds being requested.

F–15's and F–16's, the numbers we request are designed to give us the 40 tactical fighter wings by 1991. That is a goal that the Air Force has been trying to achieve for some number of years. Of course, the air defense competition, the next item, presumes the existence of $200 million in fiscal year 1986.

Sir, you will recall we discussed that issue at the last hearing. For us to proceed forward with the air defense competition as has been laid out, we need the moneys that were appropriated in fiscal year 1986.

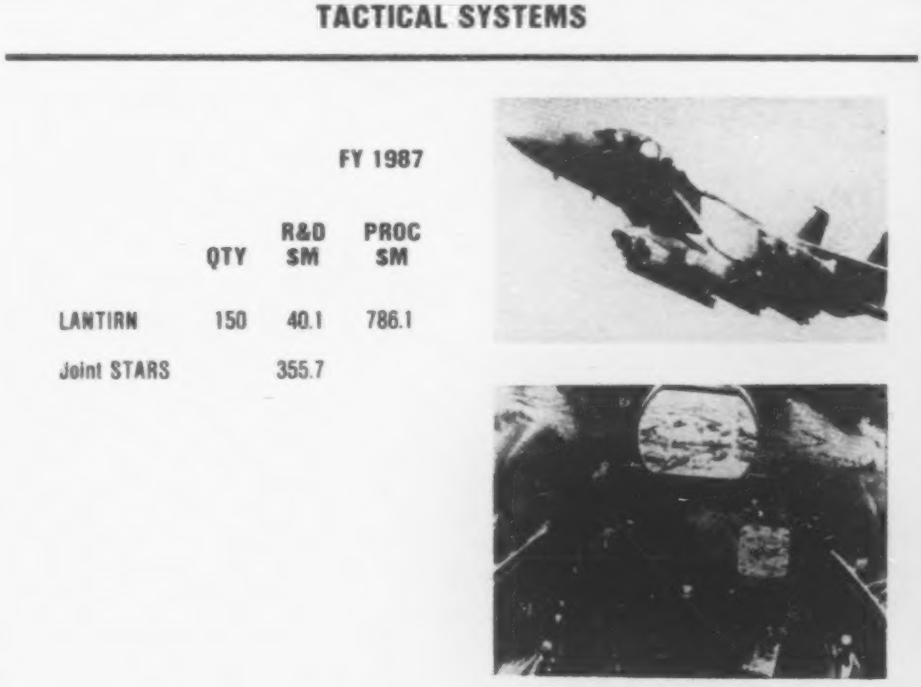
The advanced tactical fighter. As you recall and may have read in the paper, we have done some restructuring to that program. Because of the urgency, the Secretary decided that one of the ways to reduce the risk was to go into a prototype approach and, of course, that was suggested by the Packard Commission.

That prototype approach has been implemented by the Secretary. However, it does not change our requirement for the funds for fiscal year 1987. The breakout of the funds for fiscal year 1987 is $294 million; of this, $182 million is for engine work—that is the highest risk area we have—to make sure we develop that engine in time to meet our initial operational capability by the mid-1990's.

The second piece, $66 million, goes to the development of the prototype and the demonstration validation program. That was all part of the original program, but now includes the prototype.

The third piece, $46 million, goes to the development of the avionics. We intend to have the ground prototype avionics demonstration involving the new, very high speed integrated circuit technology.

The remainder of the airplanes you see on there have to do with special operations forces and intelligence. I plan not to discuss those.



TACTICAL SYSTEMS

		FY 1987	
	QTY	R&D $M	PROC $M
LANTIRN	150	40.1	786.1
Joint STARS		355.7	

SLIDE 6

TACTICAL SYSTEMS

The next chart talks about a couple of the more important tactical systems that we have.

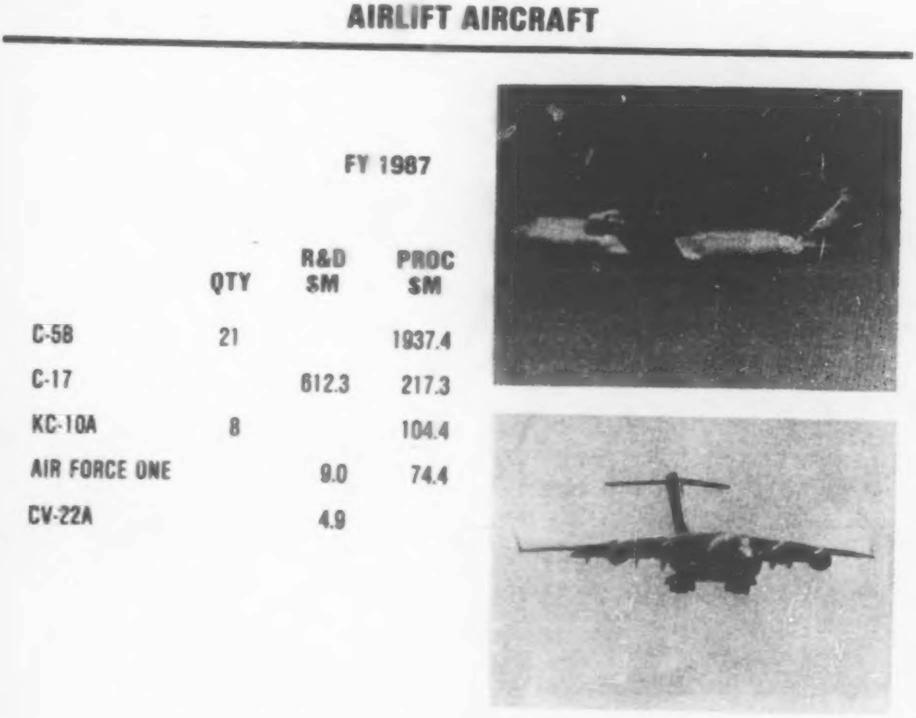
The LANTIRN Program. As you recall, this is the night capability that we have developed. We have put the navigation pod into production, low-rate initial production. That is moving along quite well. It meets all of its reliability requirements and is moving up that reliability growth curve which is one of the important factors developing the LANTIRN capability.

We have just made a decision on the targeting pod to put that in low-rate production because it finished its original operational test and evaluation and it has done an excellent job in the IOT&E phase.

Both of those are moving forward in the production phase. We propose to make a decision to move the navigational pod in full-rate production, assuming that it continues to be as successful as it is right now.

The Joint STARS is, of course, a program that has had some controversy. It is extremely important to the U.S. Army that we proceed forward. As you recall, this is a program which Dr. Cooper usually refers to as the upside down AWACS. It takes a look at the ground battle situation in exactly the same manner that the AWACS airplane takes a look at the air battle.

This is an extremely important part of the Army's program. We are asking for a third C–18 aircraft in the $355.7 million request. We need this because we intend to move forward in 1989 for a field demonstration with the U.S. Army in Europe. We need a third airplane to be able to continue with the day-to-day testing of the radar.



AIRLIFT AIRCRAFT

FY 1987

	QTY	R&D $M	PROC $M
C-5B	21		1937.4
C-17		612.3	217.3
KC-10A	8		104.4
AIR FORCE ONE		9.0	74.4
CV-22A		4.9	

Slide 7

AIRLIFT AIRCRAFT

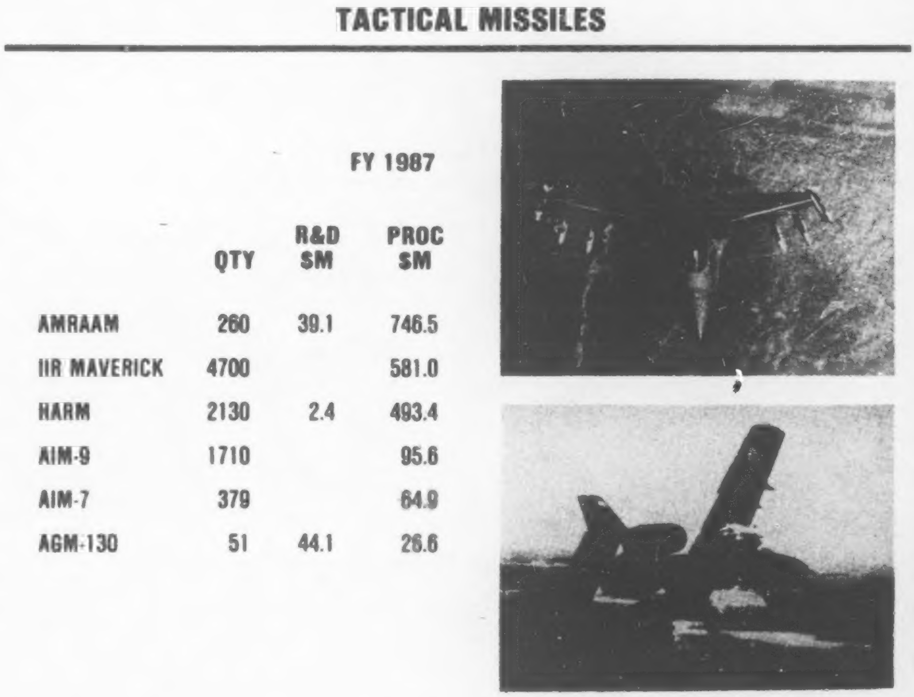
The next chart talks to the airlift situation. We are moving toward completing the C–5B acquisition in this fiscal year. That program, as you recall, has gone quite smoothly. We have achieved the maintenance manhours per flying hour goal that we tried to achieve, but now it is time to move forward into the C–17.

We are very concerned that the C–17 program is misunderstood. The fact of the matter is that the C–17 represents a gigantic step forward in terms of airlift capability. You were talking about priorities and in the priority sense the C–17 is the highest priority program we have in the airlift area of the U.S. Air Force.

Our request in fiscal year 1987 is to continue with the research and development and to begin to establish the production line with the fiscal year 1987 procurement funds.

We are getting the KC–10 now. That has been a very successful program.

We are awaiting a congressional approval to proceed forward with Air Force One, as you may recall.



TACTICAL MISSILES

FY 1987

	QTY	R&D $M	PROC $M
AMRAAM	260	39.1	746.5
IIR MAVERICK	4700		581.0
HARM	2130	2.4	493.4
AIM-9	1710		95.6
AIM-7	379		64.9
AGM-130	51	44.1	26.6

SLIDE 8

TACTICAL MISSILES

The last chart talks about the tactical missiles that we have in our program. I am going to leave the AMRAAM discussion to General Ferguson because he is the program manager and can give you a better perspective as to the status of the advanced medium-range air-to-air missiles. I can tell you in a nutshell the status is quite good. The program is moving along very smoothly.

The IIR Maverick has been a program that has had some controversy in the past. I am pleased to report we have fully qualified the Raytheon Co. Raytheon is now on contract to build 800 missiles after having been qualified and in fiscal year 1987 Raytheon will go head to head in competition with Hughes in the purchase of the Maverick missiles.

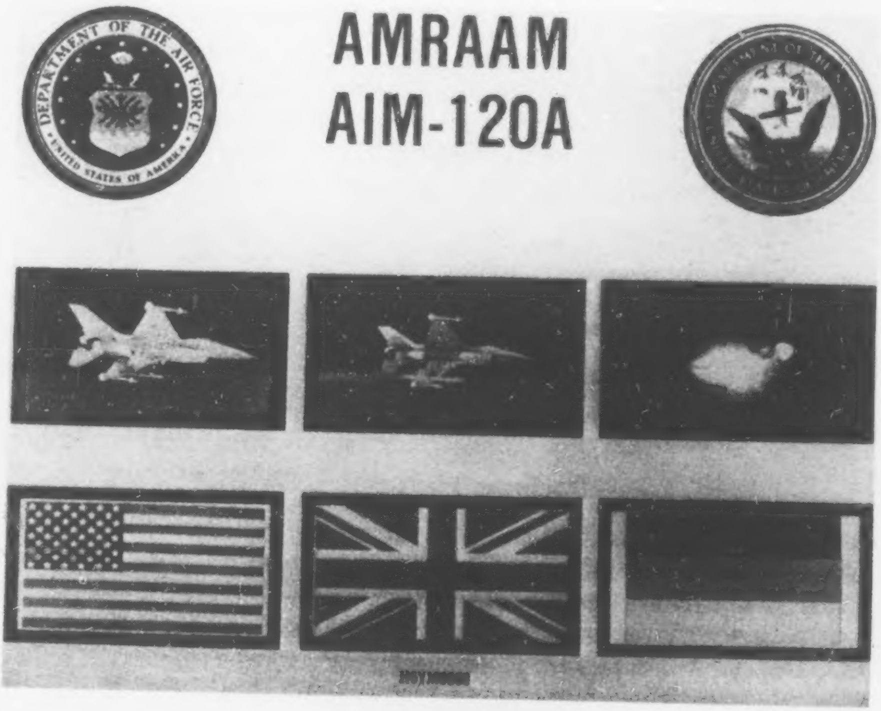
I also should point out the fact that at Hughes, Maverick is moving along quite well with 100-percent success in the quality control. That is, the missiles that we are inspecting that Hughes is turning out are passing at the rate of 100 percent.

AIM–9, AIM–7, and AGM–130 are all continuing in accordance with the plan you see there.

That is a brief overview of the situation as far as the program is concerned.

With your permission, I would like to turn it over to General Ferguson.

Senator STEVENS. We will be happy to hear from you, General Ferguson.



AMRAAM
AIM-120A

SLIDE 9

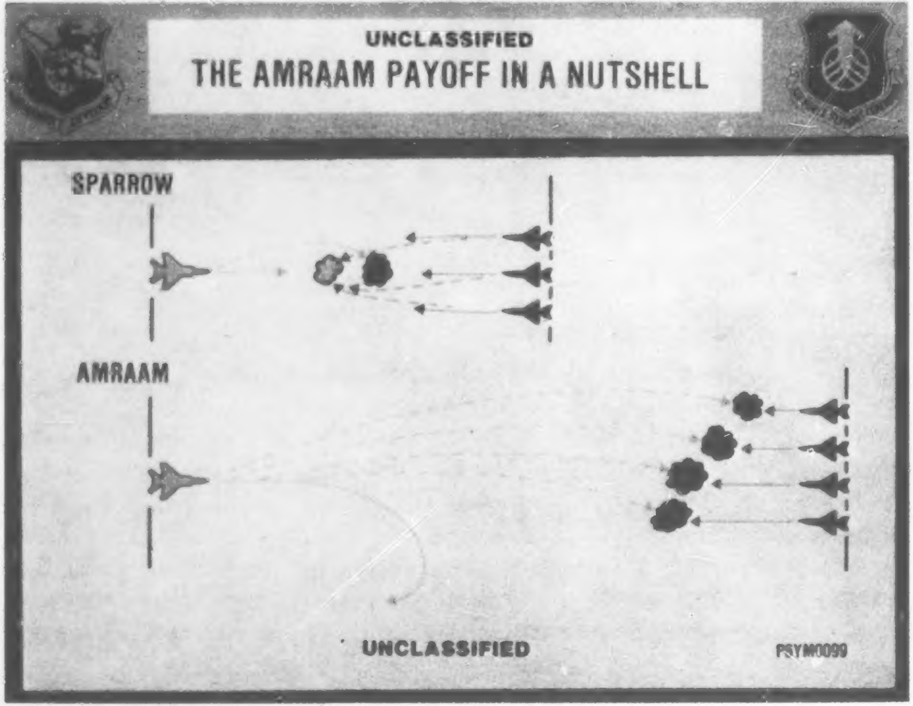
AMRAAM PROGRAM

General FERGUSON. I am located at the Armament Division, sir, at Eglin Air Force Base. I have a staff with international implications.

As the chart indicates with the flags across the bottom, the United Kingdom and Germany both intend to buy this missile. We operate under a family of weapons, memorandum of understanding. I have personnel from these two countries working directly with me in the program office.

As you probably know and the logos indicate in the upper part of the chart, we are in a joint program also with the Navy. My Deputy is a Navy captain. He has a staff that assists me in the development aspect for the Navy.

The key advantage that we are going to bring to the operational force, we are going to put AMRAAM on the F-16 and for the first time establish it with a beyond-visual-range missile capability.


UNCLASSIFIED

THE AMRAAM PAYOFF IN A NUTSHELL

UNCLASSIFIED

SLIDE 10

AMRAAM PAYOFF

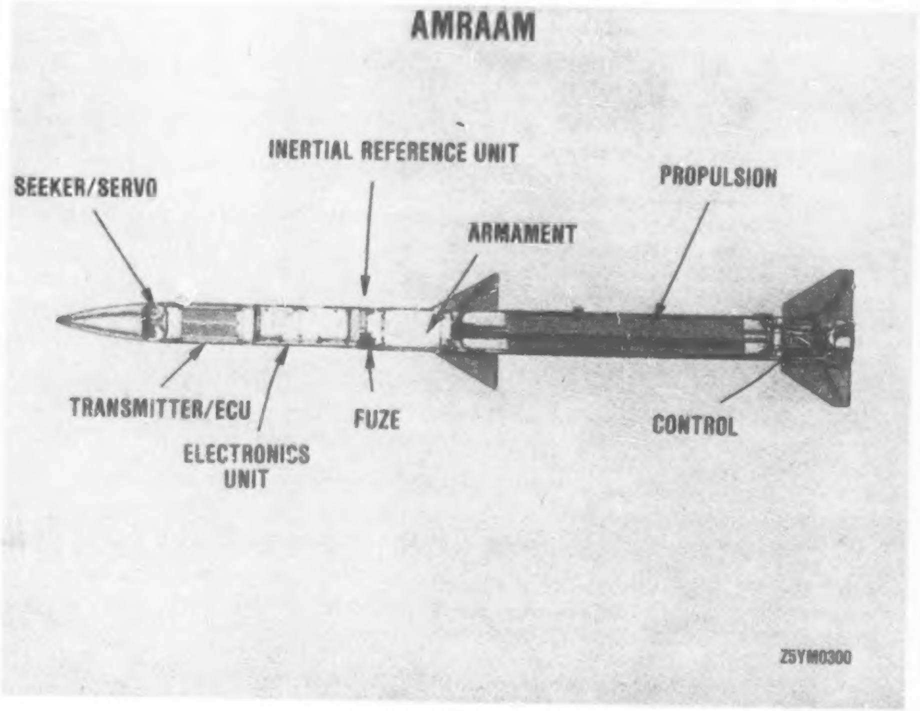
The chart shows one of the direct hits we have attached in the program with launch off the F-16.

AMRAAM will bring many advantages to the operational forces, but the one I have elected to highlight for you today is what I call the chief payoff in a nutshell, so to speak. It is illustrated here.

Sparrow is shown in the upper part of the chart. With Sparrow, the radar operator onboard the launch aircraft must continue to illuminate, with a very narrow radar beam, its intended target. Then it must guide the missile all the way to fly out until intercepting the target. That requires the forces to close to an engagement where our airplanes become vulnerable to their short-range missiles.

The other disadvantage is because of the very narrow radar beam that he requires to illuminate his target, he loses perspective of what happens in the battle in an overall sense. With AMRAAM we will be able to launch from further ranges because we have greater velocity.

We will be able to operate with newer features of radar onboard of our aircraft so that they will be able to maintain the battle perspective while putting multiple AMRAAM's into flight simultaneously against multiple targets, a significant increased capability for the tactical Air Force.



SLIDE 11

AMRAAM CONFIGURATION

The missile itself is the same length as the Sparrow. It will fit onto all the current stations of our fighter aircraft. Of course, we are putting this missile onto the Air Force F-16, F-15, the Navy F/A-18, and the F-14. It is slightly smaller in diameter. The real technical challenge we face with the missile is putting a very, very complex and very capable electronics package into a very small volume.

As you can see, the span and control surfaces, those dimensions have considerably shrunk over the Sparrow missile. The key advantage is that it will help control the missile better and allows us to have greater agility and we can take on targets trying to evade intercept in the end game at higher turning G force.

The film I am going to show you now, if I can perhaps have the lights dimmed a little bit, is meant to be in the way of presenting the status report to you and covers most aspects of the AMRAAM program to date.

[Film presentation.]

AMRAAM TEST FILM PRESENTATION

General FERGUSON. Starting out with some warhead testing, this is an aircraft fuselage undamaged, the missile accelerating into the arena and electronically detonated for precise measuring of the missile warhead effect.

There are other wing panels over here. As you can see, once the effects of the explosion are complete, the damage is very devastating. The warhead was detonated from a distance that would approximate the missile miss distance. The warhead is fully qualified. The rocket motor likewise is fully qualified now with 48 successful motor firings completing that test work.

That is a ceramic circuit card assembly. We call it a chassis. It is the building block electronics for the AMRAAM missile.

Here is shown the automated test station similar to the kinds we are currently using in the production facility at Tucson. We are building all our development missiles in a production facility to enhance the transition from development to production.

The electronic unit shown here is a part of the missile. There are eight of those assemblies that make up the electronic unit. Forty percent of those items have now been completed in the full-scale development program.

We test the missile in an open configuration and then skin it, which is the operation that is being shown here. We are using tooling representative of that which we would use in production, final assembly, and checkout.

Once again, the same kind of equipment we would use in production is being used in full-scale development. We have now delivered 35 missiles, or 25 percent of the total number required for the development program.

We carry a captive missile in a pod which is shown here: A 600-gallon drop tank on the F-15. In that way we can captive carry the missile, check its hardware and software in flight without launching. We have 1,000 simulated sorties now, flying the missile in that kind of environment.

The F-16 is shown here in environmental testing. This is how we test to find out how the missile reacts in the airplane environment and how the airplane reacts to various AMRAAM loadouts.

Similarly we check the missile in aircraft-carrier suitability testing to see if the AMRAAM carried on the wing of the Navy F-18 is properly specified for the airplane's environment.

We are concerned about maintainability. Here you see one AMRAAM being loaded out of the shipping and storage container. We ship and store four missiles in one container. This is a maintainability demonstration showing our ability to upload the missile onto the F-15 using a standard Air Force load crew.

In this case we demonstrated we could load four missiles in 1 minute less time than we currently do with the Sparrow. Of course, this is full-scale development and these men gave us suggestions of the way we could improve the launcher as well as the hooks that tie the missiles to the launcher. We have done that and those changes are being made for the production hardware.

I want to highlight three launches. This was the third in the sequence launched off an F–16. This was a very slight look-down/shoot-down. Notice the very clean burning rocket motor which is one of our development objectives. This was a medium-range launch, testing the F–16's ability to update the missile with target information and, as you can see by the direct hit, it was a very successful mission.

All of our objectives were met and, of course, the missile was successfully updated by the F–16 while it was in flight. Then it went active in the end game and destroyed the target.

Dr. COOPER. There was no warhead on that missile, Mr. Chairman. That was a direct hit.

General FERGUSON. The next shot is from the F–15 aircraft. This was the second successful shot from the F–15. In this case we were at high altitude, approximately 40,000 feet, with the F–15 and with the drone when we launched.

This was also a long-range shot. The target also did a maneuver after the time that the missile was launched requiring us to update the missile with target position and then the missile turned on its own radar and successfully searched for and located the target and then guided to the end game.

We were at high altitude, so what you are seeing here is the contrail from the rocket, vapor from the rocket motor. That is something, of course, we cannot avoid, even in a reduced smoke rocket motor.

Once again, this turned out to be a very successful shot meeting all of our objectives. We did actually hit the target. Once again, no warhead, only telemetry was involved. That drone aircraft could not be recovered.

The F–16, you will notice, is in a hard maneuver launching the missile in a 4-G turn. The airplane was configured in a wartime loadout with four AMRAAM's and two AIM–9's.

This was a separation test from the F–16. Supersonic flight, 4-G turn, shooting against a target, also maneuvering in a 3-G turn, once again, a direct hit, meeting all of our test objectives.

[End of film.]

AMRAAM FLIGHT TEST PROGRAM

General FERGUSON. We now have had nine launches in the flight test program, doing very well. Yesterday for the first time, I guess I would say, we did not meet all our test objectives. We attempted our first launch off an F–18 airplane and the missile did not complete its full cycle to light up the rocket motor.

No failure onboard the missile, we believe. It did not sense the proper G forces during the eject sequence. For flight safety the missile is programmed that if it does not see a 15-G pushoff, it will not continue with the ignition sequence on the rocket motor. Obviously, we have a problem to look at. I want to emphasize it was not a failure in the missile.

As far as deliveries are concerned, out of our Tucson plant we are now doing extremely well. In the month of May we delivered seven missiles. I don't want to imply that is the rate we have bid as far as deliveries in the full-scale development program, but we think we have now reached a new plateau where we should expect deliveries of three to four per month which will successfully complete the development program as far as deliveries are concerned on the schedule we have planned for.

There are no technical problems at the current time that we consider to be significant. That means that we have no problems for which we do not have solutions. We still have an extensive flight test program in front of us. I am quite confident we will be successful as we continue through with the launches that we have scheduled over the summer.

Of course, we are meeting our next major review milestone with the Office of the Secretary of Defense in July of this year which will be a decision to apply the advanced buy and long-lead funds on the program, and then approximately 1 year from now, perhaps sooner than that, we will meet our DSARC IIIA milestone which is for low-rate initial production.

That concludes my statement.

[The statement follows:]

JOINT STATEMENT BY

The Assistant Secretary of the Air Force
Research, Development and Logistics

and

Deputy Chief of Staff Research,
Development and Acquisition
Hq United States Air Force

The U.S. Armed Forces protect and preserve the United States as a free nation. U.S. forces help assure the physical security of the United States as a democracy and protect U.S. interests abroad. The basic military strategy of the United States is the deterrence of war by making a potential aggressor unwilling to take the risk of starting a conflict. The security interests of the United States and its allies continue to be challenged by the sustained growth and improved performance of Soviet military forces, Eastern bloc, and surrogate exploitation of regional conflicts, and instabilities in many areas of the world.

The Soviets continue to increase and modernize their nuclear and conventional forces as well as their capabilities for projecting military power. Together with surrogates, they are attempting to weaken the ties between the United States and its allies and extend their influence in the Third World. Soviet military interventions further impede the peaceful resolution of Third World problems and contribute to regional instability by promoting wider conflict.

U.S. military strategy seeks to deter attacks against the United States and its allies, limit Soviet opportunities for coercion, and provide the flexibility to respond appropriately to aggression and terrorism . Therefore, U.S. forces must be capable of operating effectively throughout a spectrum extending from low-intensity conflict to strategic nuclear war. Readiness, sustainability, modernization, and a sound force structure are imperatives of the U. S. military posture.

Through the President's commitment to long-term defense modernization, our forces have reached a higher peacetime level of effectiveness than at any other time. When the President first came into office, he was faced with ten previous years of U.S. military decline while the threat was continually increasing. During the past five years, real growth in our military investment accounts (procurement, research, development, test and evaluation, and military construction) has resulted in the modernization of our equipment and a simultaneous increase in our readiness and sustainability for support of larger forces in the U.S and overseas.

Because of the steady rebuilding of our military capability, our strategic forces have become more capable and survivable; our tactical aircraft mission capable rates and wartime fighter sortie generation capability have drastically improved; our strategic airlift fleet has increased; and our command, control and communications have become faster and more survivable. All of these improvements to our force structure enable the U.S. military to better carry out the national security policy of protecting and defending American interests throughout the world.

The Fiscal Year 1987 investment in research, development, test and evaluation, procurement and military construction provides the future force structure capability to meet our national security objectives. The Fiscal Year 1987 investment programs account for 56% of the entire AF budget request. We feel this mix represents the most reasonable balance between operating our forces at a high level of readiness and investing in the development of future weapon system capabilities.

Our qualitative edge over the Soviets has been narrowing due to the large Soviet expenditures in science and technology and an intense program to acquire our latest weapons technology. Given our strategy to counter the large quantities of Soviet weapons with our technologically superior weapons, we must continue and increase a broad-based scientific and technology program across all mission areas. We cannot wait until the Soviets further close the technology gap because of the long lead-time required to field weapon systems utilizing new technologies. Further, we must shorten the development cycle for technologies which promise a high payoff in countering the projected threat.

To transition our science and technology efforts into development and production, we require a sound industrial base that can operate in both peace and wartime. Today's industrial base for producing defense equipment consists of privately-owned and government-owned facilities. The Air Force's Industrial Base Program analyzes current industry capabilities in light of acquisition programs and develops goals that tie industrial productivity enhancements to wartime responsiveness.

We must also improve readiness and sustainability despite increased weapon system performance and complexity. Our aircraft have to be able to deploy quickly to austere bases, and sustain high combat sortie rates. To accomplish these demanding requirements, the Air Force's Reliability and Maintainability (R&M) 2000 program is designed to accelerate R&M efforts in both fielded and new weapon systems. The two research and development programs that offer high payoffs are the R&M Maturation and Technology Insertion Program, and the Productivity, Reliability, Availability, Maintainability Program.

To develop a large array of sophisticated yet reliable and maintainable weapon systems within a period of austere resources, we must continue our efforts to improve our stewardship of the defense dollars allotted to us. We have instituted several acquisition management enhancement programs that are intended to reduce the cost of weapon systems, improve the spare parts acquisition cycle, create a top notch professional acquisition staff, and encourage a greater cooperation with our NATO partners in developing and acquiring weapon systems. Through these and other programs, we feel we can better manage the limited funds available for Air Force programs.

Our development programs and production lines can lead to improved war-fighting capability only if our forces are trained and ready to use this modern equipment, our peacetime stocks can support day-to-day operations and training, and we have the necessary repair facilities, spare parts, and consumables to sustain our combat forces. To improve our aircrew training, we have a full array of aircraft simulators that complement actual flight time, enhance combat capability, and improve safety. Results of recent aircrew combat competitions show that our pilot wartime proficiencies have reached their highest peacetime levels in years. Our readiness has also improved with the increased emphasis placed on our peacetime spares procurement. We have kept up our commitment to funding both the initial spares needed to support new weapon systems and the replenishment spares necessary to support operations and training programs. While revised fiscal guidance has impacted our war reserve stock procurements, we are still able to fund all new wartime kit authorizations for our fighting units.

The fundamental objective of U. S. nuclear forces is to remove all incentives for direct attack against the United States and its allies by promising any attacker a devastating outcome. The Soviet Union has continued to challenge the U.S. guarantee of effective retaliation and has threatened U.S. deterrent capabilities by strengthening certain measures of Soviet nuclear strength. To counter growing Soviet nuclear war-fighting potential, the United States gives high priority to the modernization of its nuclear forces and the study of means for defending against ballistic missile attack. Equitable and verifiable arms reduction agreements are being pursued in parallel with modernization programs. The goal of the United States is a more stable nuclear balance at lower levels of armament.

The United States' strategic nuclear forces are composed of submarine-launched ballistic missiles, land-based ICBMs, and manned bombers. These forces, known as the Triad, represent our nation's resolve to deter any potential aggressor. The structure of the Triad discourages a first strike against the United States by complicating Soviet efforts to defend against this retaliatory mix of forces.

The ability to deter aggression exists only if we have the actual capability and will to retaliate. Since the Air Force is responsible for maintaining two-thirds of the Triad, the land-based ICBMs and the manned bomber, we have continued to seek modernization in both of these areas. We are modernizing our ICBM force through the upgrade of the Minuteman missile, the procurement of the Peacekeeper missile, development of a small mobile missile, and research on technologies to increase the survivability of our ICBM force. In addition, we have upgraded some of our B-52 systems to extend their lifetime and enhance their delivery capability. The B-52, through these improvements, provides an overlap until the Air Force's newest bomber, the B-1B, takes over the penetration role. To meet the expected advances in Soviet defenses, we are continuing the development of the Advanced Technology Bomber and both penetration and standoff missiles. With this new bomber and missile force mix, our bomber leg of the Triad will remain a credible deterrent to nuclear aggression well beyond the year 2000.

Strategic Defense encompasses detection of Soviet aircraft and missile attack, monitoring space activities, and defense against atmospheric and space-based threats to U.S. forces. These resources reduce the probability of a successful enemy's decapitating first strike attack, thus increasing stability between the United States and the Soviet Union.

Atmospheric surveillance and defense are responsible for the protection of North America against the air breathing threat. In Fiscal Year 1987, we will continue replacing the aging Distant Early Warning System with the new North Warning System to provide improved surveillance of the northern approaches. For coastal surveillance, we will continue procurement of the Over-the-Horizon Backscatter Radar. To ensure an effective interceptor force at lowest cost, the Air Force is holding a competition for approximately 300 new interceptors.

For space surveillance and defense, we are instituting several improvements to the SPACETRACK system, continuing space defense system tests, and improving space defense command, control and support programs.

Ballistic Missile Warning and Attacks Assessment is currently performed by a network of sensors. In Fiscal Year 1987, two new PAVE PAWS sites will be completed. These systems will provide coverage of the southeast and southwest sectors to complete 360 degree surveillance against Submarine-launched Ballistic Missiles. The Ballistic Missile Early Warning System will be upgraded by completing the replacement of 20-year old conventional radars at Thule Air Base, Greenland.

Finally, the Strategic Defense Initiative is exploring the potential of a system to counter ballistic missiles and their re-entry vehicles in flight. In Fiscal Year 1987, the Strategic Defense Initiative will continue funding five technology development areas: surveillance, acquisition, tracking and kill assessment; kinetic energy weapons; directed energy weapons; battle management/command, control, communications; and system analysis and supporting technology.

Without our Strategic Command, Control and Communication (C^3) systems, our strategic offensive and defensive weapon systems will not provide a credible deterrent against Soviet first strike. Our Strategic C^3 systems link our attack warning, defensive, and strategic retaliatory forces to command centers. They must be effective and reliable in the pre-, trans-, and post attack environment. Our current systems are being upgraded to become more survivable, and new systems are being produced and deployed to provide increased capability. In

Fiscal Year 1987, the Air Force will continue development of the Milstar secure, jam-resistant communications system, the Ground Wave Emergency Network, the Minimum Essential Emergency Communications Network, and the Worldwide Military Command and Control Information System. We will continue production of Strategic Air Command Digital Network terminals and the Defense Satellite Communications System III satellites. Fiscal Year 1987 system upgrades will include the Aircraft Alerting Communications Electromagnetic Pulse Upgrade and the modifications to the EC-135 Post Attack Command and Control System and E-4B command post aircraft.

Space systems significantly increase the combat effectiveness of our strategic and conventional forces. The Soviets have recognized the importance of space in military operations and have made great strides in improving their space-based assets. We also have instituted programs to upgrade our space infrastructure of launch and on-orbit facilities, increase the survivability of our space systems, and improve the surveillance, communications, and navigation capabilities of our space systems. Infrastructure upgrades will include: upgrading the Titan 34D to launch shuttle-size satellites; upgrading the Titan II ICBM into a space launch vehicle for smaller satellites; upgrading the Satellite Control Facility data systems computers; and continuing the development and acquisition of the Advanced Remote Tracking Station. Improved performance and survivability of our space systems will be accomplished through: continued development of the Defense Meteorological Satellite and its ground command, control and communication network; continued procurement of improved Navstar Global Positioning System satellites and continued development and test of the Nuclear Detonation Detection System user terminals along with acquisition of the operational satellite segment.

Our theater forces still remain a key deterrent to aggression by the Soviet Union and her allies. The numerical advantage enjoyed by the Warsaw Pact has become even more ominous with the introduction of many Soviet technical advances in avionics, aerodynamics, and propulsion systems. To meet this ever increasing qualitative and quantitative threat, we are continuing our modernization programs in tactical aircraft; air-to-air missiles, air-to-ground munitions/missiles; battlefield management command, control, and communication (C^3) systems; defense suppression and electronic combat measures; theater nuclear capability; and chemical warfare protective systems and retaliatory weapons. We realize the importance of obtaining a balanced mix of offensive weapons, defense suppression weapons, C^3 and intelligence fusion information, and nuclear/chemical capability. The Fiscal Year 1987 budget request is designed to accomplish that mix without sacrificing the importance of readiness and sustainability.

Force projection is vital to our ability to deter aggression by displaying our readiness to use the correct force at the right time and the right place. Our three key elements of force projection are airlift, refueling, and special operations forces. Air Force airlift operates in conjunction with sealift and prepositioned war materials to provide the link between force structure and combat capability. With the final procurement of 21 C-5Bs in Fiscal Year 1987, we will have completed the major portion of our near-term airlift modernization that started in 1983. For our long-term requirements, we will complete full scale engineering development of the C-17 multirole airlifter in preparation for a 1988 production start. We will also begin the development and acquisition of two Air Force One replacement aircraft whose need was recognized by the last Congress. To complement our airlift leg of force projection, we have significantly increased our refueling aircraft fleet to support tactical as well as strategic readiness. In Fiscal Year 1987, we will complete our planned 60 KC-10 fleet with the purchase of eight aircraft and will continue the annual production of KC-135R re-engine kits to provide a 50% fuel availability increase to our primary strategic airlifters. To meet the threat of low level conflict, especially that posed by increased terrorist activity, we have started acquisition of additional MC-130H and AC-130H aircraft to supply airlift and accurate fire power in support of our special operations forces.

Supporting the development and production of our weapon systems requires extensive test and evaluation facilities. With the increased emphasis on testing, we plan to conduct several test range modernization and improvement efforts in Fiscal Year 1987.

Overall, this year's budget seeks to sustain positive growth in the future to meet our national security objectives and military strategy of deterrence and flexible response to hostilities. Through careful stewardship of public resources during the first five years of the Reagan administration, we have made significant improvements in force modernization, readiness, and sustainability. With improved acquisition techniques, we will continue to improve our military posture. We have developed a budget that strikes a prudent balance between research, development, test and evaluation, and procurement programs and takes into consideration competing military requirements and program priorities. Congressional approval of this Fiscal Year 1987 budget will allow us to sustain our past gains and meet the growing threat.

AMRAAM PRODUCTION PLAN

Senator STEVENS. Thank you very much.

I am sure you are familiar with our GAO report on the AMRAAM. The request here is for $39.1 million to continue R&D, plus $757 million for initial production of 260 missiles. The total cost of the program is capped and certified at $5.2 billion in 1984 dollars for 17,000 missiles. Total cost of this program is $7.5 billion, which includes 24,000 missiles for the Navy.

GAO tells us that there are continuing design problems, the transmitter subsystem and radar receiver range correlator problems continue; that only 7 of the 18 scheduled test missiles have been delivered, the live firings are 4 behind schedule, and, as you say, General, 8 successes and no failures, but they note there have been several aborted attempts, one-half of the fiscal 1985 R&D was held up until March 1986.

My staff tells me that the Secretary has indicated the test schedule may be inadequate to support the production plan and that GAO analysis indicated that AMRAAM buildup is too rapid.

Under those circumstances, are there any plans to delay initial production until a specific number of test missiles have been evaluated, Mr. Secretary?

Dr. COOPER. Mr. Chairman, let me address that briefly and then I will ask General Ferguson to go into a bit more detail.

Our production decision is not predicated on having a certain number of tests complete. It is predicated on meeting certain criteria that were laid down. If we do not meet those criteria in July, we will not release the advanced buy/long-lead funding.

So, it is not based on seven or eight or nine missile firings. It is based on performance to date. From what we see right now, we are going to meet those performance criteria. So, I am really not concerned about that. If we are not ready in July, we will delay until we are ready.

As far as the specific GAO allegations, I think you can see now why we wanted General Ferguson to come forward today. I might ask General Ferguson to touch on those briefly.

AMRAAM GAO REPORT

General FERGUSON. I know at one time we had at least seven GAO personnel working with us in the program office at the Armament Division. I know there were probably as many as 15 people at one time involved in compiling data for that study with Raytheon Co. visits, Hughes Aircraft Co., and the program office at test sites.

I think the most significant thing coming out of the GAO report after that kind of extensive and exhaustive review is their recommendation that the program should go on into production. I know that that is their briefing that they have been providing to those persons reporting on the program.

Obviously, they have identified what I would consider to be the normal type things that you would be experiencing during the early phase of the development program. Certainly we do have hardware at the current time that has caused us some problems in the past. We have solutions for those.

We have identified missiles by tail numbers, so to speak, where those changes are flowing in. All of the changes to problems that we have experienced to this point in time will be in the missiles and evaluated prior to the time that we get to our DSARC IIIA milestone in April of next year.

GOVERNMENT IN-HOUSE SUPPORT

Senator STEVENS. You have $76.8 million for Government in-house support of this program. That supposedly is a cost reduction program.

Since it is a contractor program, why should we need this enormous budget of Government personnel to bring about cost reduction?

General FERGUSON. The majority of our funds that we are expending in the R&D program at the present time is for the evaluation of missiles. In other words, to conduct our flight test operations and to complete the evaluation. The full-scale development program contract with Hughes is fully funded at the present time.

Senator STEVENS. We are talking about procurement dollars?

General FERGUSON. Procurement dollars.

Senator STEVENS. Why do we need that much money in-house for procurement dollars assuming the decision has been made to go ahead with procurement?

General FERGUSON. Are we talking about the funds that we are providing to our producibility enhancement program? Are those the funds we are describing?

Senator STEVENS. The Government in-house money, as I am informed, is $76.8 million for in-house support of a cost reduction program after the production decision. It is production money we are talking about.

General FERGUSON. There are funds that have been allocated to once again conduct evaluation of the missiles once we have put producibility or cost reduction changes into the missiles.

PERFORMANCE REVIEW CRITERIA

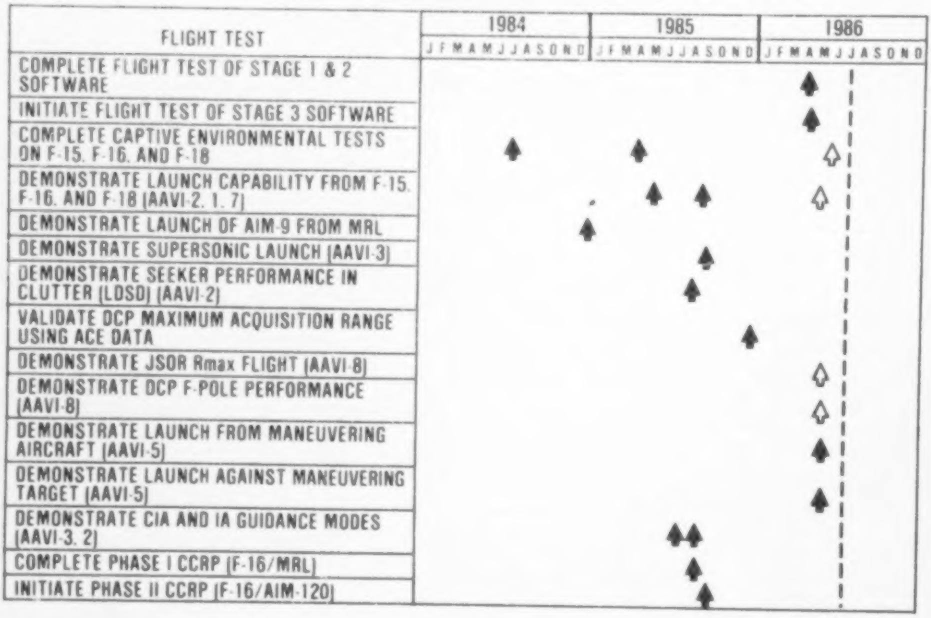
Senator STEVENS. Dr. Cooper, what conditions do you see that we must have satisifed before we proceed with production?

Dr. COOPER. Mr. Chairman, there are, as I recall, about 10 performance criteria that need to be met.

Why don't we throw one of those charts up quickly and show you the types of things we are going to look at in July when we ask DSARC to make a decision whether or not to release the long-range funding.

UNCLASSIFIED

OSD REVIEW CRITERIA



SLIDE 12

FLIGHT TEST REVIEW CRITERIA

General FERGUSON. We put these criteria into our documentation and they have been provided to Headquarters Air Force staff as well as the OSD staff. They are broken down in several categories.

The only one shown in this chart is the flight test review criteria. You will notice that it is an extensive list. It requires demonstration of launches off all three aircraft—F-16, F-15, and F/A-18.

It requires us to demonstrate that the missile will operate in several of its primary modes, command, inertial, and inertial active; which is where we update the missile from the onboard radar from the fighter aircraft as well as the missile to operate in a totally autonomous mode, to launch against maneuvering targets, to launch from a maneuvering aircraft, and to demonstrate essentially the maximum range launch which has been a key driver in development objective in the joint state of operational capability.

We think that that is a sufficiently exhaustive set of conditions to satisfy in order to proceed with the advanced buy and long-lead commitment of funds.

MULTIPLE TARGETING

Senator STEVENS. Has it been fired against multiple targets yet?

General FERGUSON. No, sir.

Senator STEVENS. Is that not the sales pitch that this will replace the other missiles because it does have capability for multiple targeting at longer range?

General FERGUSON. That is part of it.

Senator STEVENS. When will that take place?

General FERGUSON. That will take place prior to our IIIA milestone next April.

Senator STEVENS. April 1987?

General FERGUSON. Yes.

Senator STEVENS. Why should we make a decision on committing these funds before we have that major test?

It sounds to me like the problem we got into in the Army DIVAD Program.

Dr. COOPER. Mr. Chairman, I want to assure you this is not a DIVAD-type problem. The tests we have had to date are eight for eight.

Senator STEVENS. But it is not designed to replace the existing missiles on a single-target concept. It is a multiple-target concept at long distance.

Dr. COOPER. Yes, sir; but I think in terms of the orderly test plan, the first thing you want to do is demonstrate its capability against a single target. I would assert this missile in its test program has demonstrated capability that the Sparrow does not have today.

We have to release long-lead funding in advance of the full production release which is going to occur in April. We have a set of criteria as well that we have to meet in April which are even more stringent than the ones that we have to meet in July.

If I could take the committee back 2 years ago when we decided not to go into production, I faced that decision after I had been in the Pentagon a year. Our original plan was to put this missile in production in February 1984. At that point in time when we convened our review, there was no way we were going to meet the test criteria.

I want to assure the committee that until we meet the test criteria, we won't put the missiles into production here. Unfortunately, with the way we budget, we have to come to you today and seek approval of the funding for fiscal year 1987. We actually will not put the missile in production until 1987 and we will not have completed some of the tests that we need to complete at that time frame. Unfortunately, we have to seek those funds in advance.

PRODUCTION FUNDS COMMITMENT

Senator STEVENS. I understand that. You are saying you are willing to make a commitment to us that you will not commit the production funds until the multiple test is completed?

Dr. COOPER. Absolutely; that is one of the criteria we have to meet before we go into production. That was not one of the criteria we set for ourselves to release the long-lead funding which is a decision we made in July. That is a fairly modest amount of money compared to the amount of money we committed in April.

MISSILE COST ANALYSIS

Senator STEVENS. I have a sheet here on missile cost analysis that lists procurement support, nonrecurring cost. On Government in-house producibility, fiscal year 1985, $28.5 million; fiscal 1986, $66.5 million; fiscal 1987, $76.8 million; fiscal year 1988, $83.7 million.

Why do we have so much in-house Government cost on producibility, supposedly nonrecurring costs that goes on for 4 fiscal years, when those are expenditures, at least what appear to be expenditures, after the production decision has been made?

General FERGUSON. Sir, those dollars are expenditures that will be placed with Raytheon Co., selected vendors, Hughes Co. and selected vendors. It is a cost reduction effort. It is carried in nonrecurring because it is for our producibility enhancement program.

Senator STEVENS. It is listed as Government in-house.

General FERGUSON. It is not Government in-house.

Senator STEVENS. I urge you to submit to us the justification that shows what it is then. It makes no sense to have almost $300 million in-house cost.

General FERGUSON. It is carried as nonrecurring. So it does roll up into the total program cost and production cost of the missile, but it is money that will be expended with our contractors for the purpose of reducing the cost of the missile in the future, utilizing advancements in the electronics industry that have taken place since the time the initial AMRAAM design was laid down.

It also includes——

IN-HOUSE COSTS

Senator STEVENS. I have time problems. You have production improvement line on your cost analysis. It is your cost analysis, not ours. It appears to be a redundancy as far as in-house cost, but beyond that we question the need for in-house cost at all once you have made the production decision.

We urge you to give us some information to explain that.

Dr. COOPER. Mr. Chairman, I would like to take a swing at this if I could very quickly, because I think it is a very important point.

The first missile that we put into production will not be the ultimate configuration of this missile. By that I do not mean that the basic design is not complete. We think long term there will be cheaper ways to produce this missile.

The one thing I worry about in AMRAAM more than anything else is affordability. We have had a lot of "itches to scratch" on AMRAAM in the last year and a half. I think, Senator Proxmire, we talked to you about this last year.

I am not concerned about the performance of AMRAAM. I think based on what we see today we have reason to be very optimistic, but the long-term challenge we have in the Air Force and Navy is to find a less expensive way to produce the missile. It will not be, and you correct me if I am wrong, Tom, until lot four that we get all of the producibility enhancements in the AMRAAM missiles.

Those moneys you refer to—and I do not have the document in front of me, but I started this program 2 years ago when we directed $100 million to go to producibility or cancel the program. It is true that is going to cost us money up front. We think there is a long-term payoff in terms of the average cost of that missile as we build toward these 24,000.

Yes; it is expensive up front. Yes; those costs will continue over the first couple of production lots. I think by the time we get to production lot 4, we will then have that missile in such a configuration that we can produce it cheaply. That, together with competition, is the leverage we need.

Senator STEVENS. Dr. Cooper, last year—I am not sure it was you, but one of the witnesses told us it was lot 3 that we would see that. I just remember sitting here listening to your predecessors——

Dr. COOPER. It was probably me.

Senator STEVENS [continuing]. Saying to me that the cost of the M–1 tank was $427,000 and we needed a few of those in-house dollars in order to make sure we could reduce the cost of future production.

We are now paying $3.1 million a copy for it. After all that in-house money, we increased the cost. I think we ought to have the production decision made after we are sure what the cost is going to be and not before.

Dr. COOPER. Unfortunately, Mr. Chairman, if you wait until you get to the ultimate producibility enhancement, we are 4 years downstream before we put the missile in production. So, there is a tradeoff here in terms of getting the capability fielded.

We think the first production missiles we field will be very capable, but they will be improved as we go down in terms of cost as you add these producibility enhancements. That is the trade we make.

We are already 2 years behind the schedule that we had originally laid out. Those are the balancing acts we go through.

Senator STEVENS. Senator Proxmire.

AIR DEFENSE FIGHTER COMPETITION

Senator PROXMIRE. Thank you, Mr. Chairman.

We gave you Air Force money to complete the competition between the F–16 and F–20 after looking at the Air Force fighter request last year and this year my question is, Where is the competition?

Last year the Air Force proposed fiscal year 1986 to fiscal year 1990 to procure 1,284 F-15's and F-16's. This year the Air Force is supposed to begin competing the F-20 with F-16. This procurement plan does not indicate it tends to do so. For fiscal year 1986 to fiscal year 1990 the Air Force is still asking for 1,284 F-15's and F-16's.

What about the F-20?

It added on 210 competition aircraft to its procurement plan for that period. Congress wanted competition, but it seems that all the Air Force has given us is add-ons.

Where is the competition?

Dr. COOPER. Senator, you have thrown me a softball down the middle. I would like to answer that if I could.

Senator PROXMIRE. Not only is it a soft one, it is a knuckler.

Dr. COOPER. I may miss this one, too.

The air defense fighter competition is outside the normal tactical fighter procurement. It always has been in terms of our air defense forces. I want to assure you that that competition is currently ongoing. We received the bids, proposals on May 9. We are currently evaluating those proposals.

Sometime later this summer we will be in a position to announce the winner in what has turned out now to be a F-16/F-20 competition. As you probably recall, we didn't restrict it to just the F-16 and F-20. We made it an open competition. At one point we thought we might have the F-15 or a variant of it bidding, a modified version inventory F-4's. When the bids came in in early May it was F-20 and F-16.

Senator PROXMIRE. Does that mean you may procure fewer than 1,284 F-15's and F-16's?

Dr. COOPER. Those will not come out of those particular procurements. Whether or not we procure 1,284 F-15's and F-16's depends on what our budget does in the next 5 years. But that is separate and distinct from the air defense fighter competition.

Senator PROXMIRE. Then there is not real competition with the F-20 with the 1,284 planes?

Dr. COOPER. I don't think so. Even though it is a limited number of F-16's competing against the F-20, I think that will put leverage on the F-16 that we buy for the bulk of our force as well.

A-7 STRIKE FIGHTER

Senator PROXMIRE. I understand the Air Force has under consideration funding of a modified A-7 for close air support role which will be called the A-7 strike fighter.

Can you give me your position on the merits of this modified aircraft including your assessment of its cost effectiveness compared to other close air support?

Dr. COOPER. Senator, I am not in a position to give you my feelings on it because that proposal has not come up yet. General Bob Russ, Commander of the Tactical Air Command, who occupied General Randolph's seat last year, is very enthusiastic about the strike fighter concept. It has not yet been formally proposed in the Air Force budget.

Sir, can I go back for a moment to the Air Force fighter competition?

Senator PROXMIRE. Before you leave that, I would like to ask General Randolph to comment.

General RANDOLPH. The set of ground rules we laid down for the A–7 strike fighter is that if there were a way to modify the A–7's to give us good air-to-ground capability at a price tag such that we could buy approximately two, or thereabouts, for the price of one F–16, we felt that would be a good economic consideration in determining whether or not we should proceed forward.

What we have done to date is that we have talked with the contractor. We have had our Logistics Command people examine the specific cost factors related to the modifications and we are in the process of pulling together a package now which, as Dr. Cooper said, will be formally submitted within the Air Force to make a judgment on whether we should proceed with a competitive modification of the A–7 for that mission.

Senator PROXMIRE. I interrupted you, Mr. Secretary. Do you want to go back?

MULTIYEAR CONTRACTING

Dr. COOPER. I thought your line of questions was going to pursue the air defense fighter competition. I do have a commercial I need to give you, if I can.

We would like to consider the possibility of going on a multiyear contract for either the F–20 or F–16, whichever of those two aircraft wins that competition. In fact, Congress in the legislation last year encouraged us to go forward and gave us the $200 million and suggested we use the multiyear vehicle.

That is particularly advantageous to a program like the F–20 where they need to know what their business basis is going to be if they win.

If we are to use the multiyear contracting vehicle, we need to get legislative authority to do that this year because the funds provided last year do not carry with them multiyear authority. We need specific legislative language that will authorize the multiyear.

We also need the Congress to waive, at least in the near term, the requirement to fund termination liability. We intend to do that in 1988, but we have not done it in 1986 and 1987.

SAVINGS FROM COMPETITION

Senator PROXMIRE. Do you have any idea how much money you can save as a percentage of the buy with this competition?

Dr. COOPER. I would estimate it will be between 5 and 10 percent. Certainly we will not use it unless it has real positive value savings. That is historically what we found in our multiyears. We have not made the decision to go multiyear. We will look to the bids.

If it is to our advantage to go multiyear, we would propose that. In the meantime, we will approach the Congress to get relief. We will have a package to go over to the chairman shortly that will pursue that.

IMPROVING EXISTING ASSETS

Senator PROXMIRE. Isn't the A–7 strike fighter the type of aircraft we should be investigating in this period of limited budgets?

We should be taking existing assets and improving them wherever possible instead of the high cost of developing an entirely new aircraft.

Dr. COOPER. I could not agree with you more. That has been our philosophy in the Air Force. Look at our F–15 and F–16 force. That is exactly what we are doing through our multistage improvement program. The A–7 is another example where in times of limited resources if we can glean additional capability at reduced cost, we want to do that.

JOINT UTILIZATION OF NEXT GENERATION AIRCRAFT

Senator PROXMIRE. I was happy to see the memorandum of understanding between the Navy and Air Force signed last month pledging each service to utilize the other next generation aircraft—the Navy's proposed advance tactical aircraft and the Air Force's proposed advance tactical fighter.

GAO has said this could save billions of dollars. I have this question.

First, as a result of this memorandum of understanding can Congress expect to see one advanced tactical aircraft being produced for both services, keeping in mind each service will have to modify the airplane to its own needs?

Dr. COOPER. No, sir.

Senator PROXMIRE. You say no?

Dr. COOPER. No; I am not at liberty to talk in great detail about the Navy's advanced tactical aircraft [ATA]. Really they have two different missions in mind there.

One is primarily air to air and the other one would be air to ground as far as we are concerned. Certainly a possibility, we think a probability, that the Navy could use our ATF when it comes time to replace their F–14.

We think we can use the ATA as well when it comes time to replace and augment our F–111 force, deep interdiction air-to-ground aircraft.

So, the concept would not be to merge the two programs, but to have the Navy use our ATF when it comes time for their next generation air superiority machine and for us to use their ATA when it comes time for us to replace the F–111's.

In the meantime, we have the F–15E program on the books which is an extremely high priority which will help us fill the gap there.

F–15 PROGRAM

Senator PROXMIRE. The Air Force has requested 48 F–15 fighter aircraft for fiscal year 1987. In previous years, Congress has reduced the Air Force request for F–15's and the Congressional Budget Office is estimating if we freeze further procurement of F–15's to 36 a year, we could save $400 million in fiscal year 1987, $2 billion over the next 5 years.

CBO reports limiting the F–15 procurement at this level should not affect the Air Force planned expansion to meet the 40-wing force goal.

Considering the budget constraints we are operating under, would it not be a good idea to freeze the F–15 buy at 36 a year?

Dr. COOPER. It is not a good idea from the point of view of economics because, obviously, the unit cost is going to go up if you reduce the buy from 48 to 36. Certainly you can take money out of the budget over the next 5 years, but if we continue to build toward our goal of 392 F–15E's, the overall cost of that force will be higher in the long term.

Senator PROXMIRE. My time is up. I have a question for the record, Mr. Chairman.

Senator STEVENS. Thank you.

Senator Sasser.

C-17 PROGRAM

Senator SASSER. Thank you, Mr. Chairman.

I want to turn our attention to the C–17 program, if I may. There is a general consensus that I share that we have a critical shortfall in airlift capability.

Now, following that statement comes the question: Do we need more of the same type of aircraft; that is, the same type of airlifters that we have now, or do we need an entirely new airlifter, the C–17?

Now, some experts make a persuasive case that we would be better off building more of the type aircraft that we already have production lines set up for, the C–5B, making greater use of the C–141, refurbishing, extending the life of the C–130's, et cetera. At substantial savings, you get more airlift capability much quicker.

Now, in this day of Gramm-Rudman and what I perceive to be zero growth defense budgets, if a C–17 program or any new airlifter program makes any sense at all or that program literally has any chance of flying whatsoever, we are going to have to be convinced, at least I am going to have to be convinced and I suspect many others are going to have to be convinced, the thing is to be constructed in the most cost-efficient way possible.

Now, last year's Defense authorization bill required two or more production sources for major systems and subsystems of major programs when it would increase competition among contractors and likely result in reduced overall program cost without delaying the program.

MAJOR SUBSYSTEMS OF THE C-17

Now, in this regard, would you describe the major subsystems or how the major subsystems of the C–17 are being competed and are they being competed efficiently and effectively?

General RANDOLPH. Senator Sasser, what we have done is gone through a complete analysis of the C–17 and each subsystem and we have dual sources in all cases that meet the requirements that the Congress laid down for us last year. The landing gear, radars, things of that nature are in the competitive area.

WING BOX COMPETITION

Senator SASSER. How about the wings?

General RANDOLPH. In the case of the wing box, the original bid has Douglas as the producer of the wing box. What we have learned since that time is that AVCO is interested in competing and has suggested that they can give us a better deal. We are most interested in that.

We have asked AVCO to give us a proposal to check the dollars that they would charge for that wing box and compare that to the Douglas bid.

Senator SASSER. When will the decision process or what will be the timing for the decision process on the wing box?

General RANDOLPH. We intend to make that decision this summer. We expect to have the AVCO proposal in very shortly. As soon as the AVCO proposal is provided to us, we will do the comparison and make a decision as to how we should proceed from there.

Senator SASSER. What will be the Air Force's involvement in this whole decision of who builds the wing?

General RANDOLPH. The Air Force is going to be explicitly involved in determining whether or not that should be done in a competitive environment. In other words, the Air Force will make the final decision. It will not be left up to Douglas, the prime contractor.

Senator SASSER. That is encouraging.

Dr. COOPER. An interesting point on that, Senator. AVCO will actually submit their bid to Douglas, but the Air Force will receive it then and we will take a look at it. Douglas will not open the bid.

Based on what we have seen, the estimated Douglas price to be for the wing box, if we determine it is in our interest to compete, that AVCO is making an offer we cannot refuse to overlook, then we will direct that competition occur between Douglas and AVCO and the Government will make a decision which way to go beyond that.

WING CONSTRUCTION COMPARISON COST STUDIES

Senator SASSER. Has the Air Force presently done studies that will compare cost of wing construction among various contractors presently capable of constructing the wing in the United States.

General RANDOLPH. Yes, sir; when we did the original competition on the C–17, the wing box was one of the factors that was looked at. If you recall, the decision was actually made by the contractor, Douglas, in a make-or-buy decision. The analysis showed that he could provide the wing box in a more cost-effective manner than any of the competitors.

Having said that—that was back several years ago—the situation has changed somewhat since then and it is worth revisiting because, as you know, that is a very expensive part of the airplane.

Senator SASSER. My question is: What has the Air Force done to compare cost of wing construction among the various facilities, not what Douglas has done.

General RANDOLPH. Let me go back. What I was about to say is that we reviewed that cost tradeoff that McDonnell-Douglas did and we were satisfied.

When it was called to our attention that AVCO had the capability to produce in what they felt was a competitive mode, we directed that AVCO be allowed to submit a bid so that we could see for ourselves as to whether or not AVCO had the capability to compete.

Now, in terms of wing box manufacturers, as you know, there are only a couple wing box manufacturers in this country and AVCO is clearly one of the Nation's leaders.

Senator SASSER. Does McDonnell-Douglas make that wing in Canada?

General RANDOLPH. No, sir; they will make that in the plant in Long Beach. As you recall, the other North American wing box manufacturers are in Canada. That means that Douglas would have to establish the line.

It was called to our attention that maybe in the cost trades, the necessary capitalization was not included in the cost trade. So, that is one of the factors we are going to have to take a look at.

C-17 PRIORITY

Senator STEVENS. Could I interrupt for one second?

Gentlemen, I have to go to another event and Senator Andrews is going to chair the balance of the hearing.

I want to indicate for the record, so that you know, I have a serious question about the availability of money for the C–17 for the next fiscal year. I hope we are looking at these priorities because that is a $34 billion commitment the minute we start down that line.

I cannot project it into the future program unless something else gives. It is one of the major items of increase, a new start in a period of very restrictive budgets.

I hope you are going to give us your guidance on that priority. If that is No. 1 priority, something else will have to give.

Dr. COOPER. We, and perhaps not to the extent you allude to now, have gone through that same sort of prioritization recently for our next 5-year program and the C–17 is funded.

As I mentioned to you at the last hearing, if those top lines come down even more, then everything gets rolled out on the table. The C–17 is a very high priority program.

Senator STEVENS. We are going to be looking at the Senate outlay figure and the House authority figure. If you look at the House figure for the next 5 years, I don't see how you can get it in there. Everybody should take a look at it and understand before the budget comes out where the priorities are.

From our analysis, it is not in there if we start with the House budget authority figure for 1987.

COST-EFFECTIVENESS OF C-17

Senator SASSER. Let me pick up where the chairman left off and say that if the C–17 has any chance at all, it is going to have to be produced in a very, very cost-efficient manner. Even if we do that, I think the real question is whether or not the C–17 program is going to go.

Now, $100 million has been invested by AVCO and by the Air Force in modern plant facilities and equipment to build wing boxes for the C–5B and B-1B. I am at a loss to see how McDonnell-Douglas can start from scratch, build the facilities to build this wing, and produce it cheaper than AVCO can produce it where they have already constructed the facilities, have them sitting there and ready to go.

General RANDOLPH. That is the evaluation we intend to make, in fact within the next few weeks, Senator. So, we will get the data from AVCO and that will give us the basis then to make whatever is the appropriate decision.

Clearly, on the surface that appears to be the situation. When we look at the numbers, we will be able to make that decision.

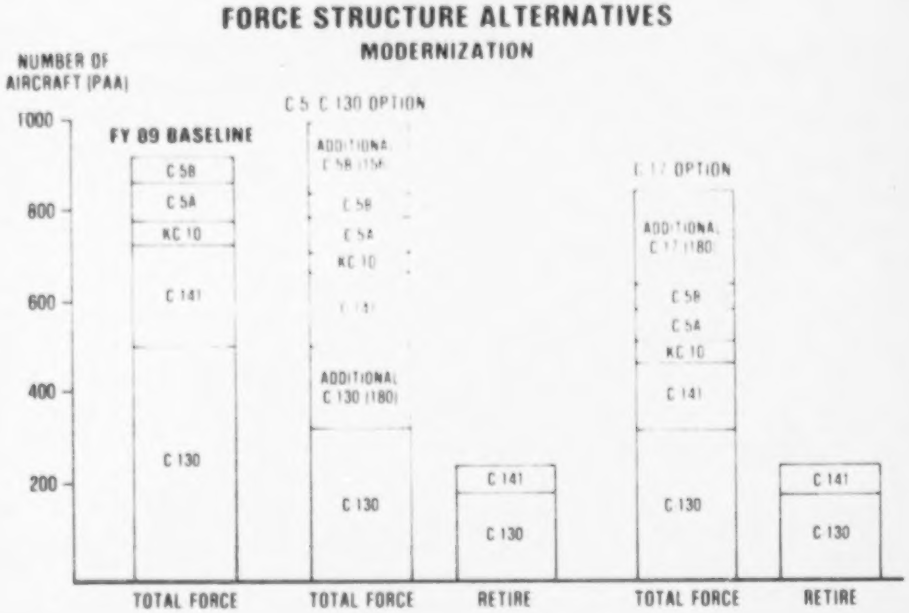
Also, I might point out with regard to the C–17, if I may, I have just three charts to show and I would like to talk a little bit about that.

Dr. COOPER. I might close on the wing box issue. We are waiting for one of those two guys to make us an offer we cannot refuse. We do not particularly care which one it is. I think competition is a wonderful thing and we are in a good position right now.

Senator SASSER. I want to make sure, Mr. Secretary, that everybody gets a chance to bid.

FORCE STRUCTURE ALTERNATIVES

General RANDOLPH. Yes, sir; and we have made that point clear that AVCO and anybody else who wants to apply will get a full chance to bid and give us the best deal we can get. We want to produce this machine at the most economical rate possible because we need it. That is the most important thing.



SLIDE 13

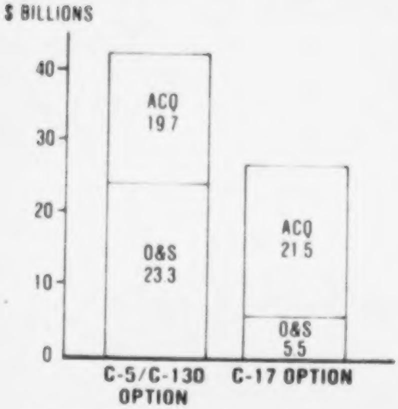
ALTERNATIVES TO FORCE STRUCTURE

If you do not mind taking a look at that chart on your left, you start with the left-hand side, that is the total number of airplanes that we plan to have that are currently funded in what is called the fiscal year 1989 baseline. We did a study and we said what should we do from that 1989 baseline? Where should we go, with more C–5's or more C–17's, in order to meet the 66 million ton-mile per day requirement that was part of the congressionally mandated study that we did some number of years ago?

There are two choices, as you see, there. One is to buy more C–5's and more C–130's or to buy more C–17's. As you can see to the right, we save in terms of numbers of airplanes because we can get the same job done by buying a fewer number of airframes in the case of the C–17.

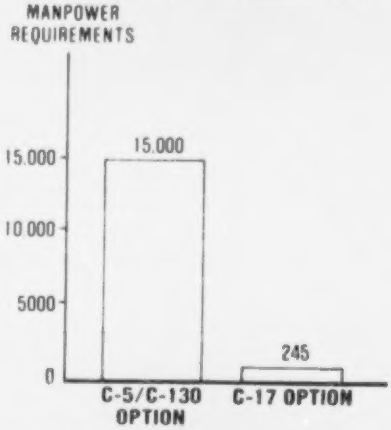
PROGRAM COST/MANPOWER REQUIREMENT COMPARISONS

30 YEAR PROGRAM COST



SUMMARY: $16 BILLION LIFE CYCLE COST SAVINGS WITH C-17 OPTION

MANPOWER REQUIREMENTS



SUMMARY: SIGNIFICANT MANPOWER SAVINGS WITH C-17

Slide 14

PROGRAM COST/MANPOWER REQUIREMENT COMPARISONS

Now, what does that mean? Go to the next chart. That means in terms of dollars, we save not only people, 15,000 people, but over the 30-year life of the program we save some $16 billion.

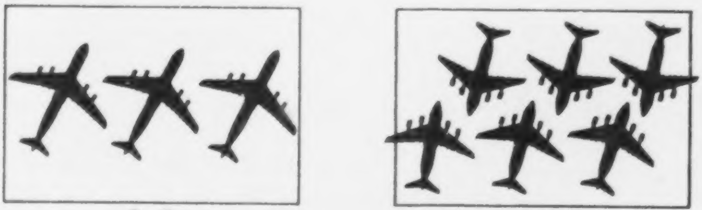
So, it is a more cost-effective airplane. It gets the job done better and it can operate in a manner that is far more efficient than the C–5.

I did a lot of airlifting when I was in Vietnam. I am here to tell you that I wish I had had a C–17 because the C–5, while it is a great airplane for hauling lots of cargo from point to point, when you are trying to move cargo into the forces up in the forward area, you cannot do that with the C–5.

THROUGHPUT CAPABILITIES

	* TONS/ACFT	X	ACFT/DAY	=	THROUGHPUT
C—5	97.0	X	22.2	=	2,153 T/D
C—17	86.1	X	64.0	=	5,510 T/D

* CONUS TO EUROPE



C–5s

C–17s

600,000 SQ FT RAMP

2.6 TO 1 ADVANTAGE FOR C–17

SLIDE 15

THROUGHPUT CAPABILITIES

The next chart shows what I am talking about. All it is simply pointing out is the physical side of the machine, given the same amount of ramp space, the C–17 has 2.6-to-1 advantage over the C–5 and C–130. It is a more efficient way; it uses modern technology.

For all of its improvements, the C–5 is still a 1960's design airplane. The C–17 is a 1980's design airplane. So, that is the difference.

Senator SASSER. Mr. Chairman, I have some additional questions which I would like to submit for the record. My time is up.

Senator ANDREWS [presiding]. Senator D'Amato.

T–46 TRAINER

Senator D'AMATO. Thank you, Mr. Chairman.

Mr. Chairman, I would like to place a statement in the record in regard to the T–46A trainer. It attempts to correct some of the statements that have been made about the T–46.

The General Accounting Office study, dated May 20, 1986, dispels much of the misinformation that was, unfortunately, given to one of my colleagues. This misinformation found its way into the record, and that I believe did a great disservice to the credibility of those who then come before us and testify on behalf of other programs.

I am going to ask that my statement be placed in the record as if read in its entirety.

Senator ANDREWS. Without objection, that may be done.
[The statement of Senator D'Amato follows:]

PREPARED STATEMENT OF HON. ALFONSE D'AMATO

U.S. SENATOR FROM NEW YORK

Mr. Chairman, I want to thank you for holding this hearing today and I thank our witnesses—Dr. Cooper and General Randolph—for once again appearing before our committee.

I want to express my deep disappointment over the Air Force's plan to cancel production of the T–46A trainer. Even with a proposed increase to $104.5 billion for fiscal year 1987, the Air Force has decided to scrap a trainer it desperately needs. For 7 years, the Air Force pushed Congress hard to fund a new trainer. The current trainer, the T-37, is 30 years old and too costly to operate and maintain.

Although I understand that each service is going to have to cut back on many programs, to kill the T–46A program outright will shortchange both the American taxpayer and the future needs of the Air Force. There are many options that the Air Force can exercise to limit the financial impact of the T–46A to fiscal year 1987's Defense budget without canceling the program. To cancel the T–46A will only cost the taxpayer an extra $1 billion to rebid the contract in the future. A Congressional Budget Office study determined that, over the long run, it would be cheaper to continue the production of the T–46A than to upgrade the T-37.

Contrary to certain assertions made on the Senate floor recently, the T–46A is a solid, well-built aircraft. The major problems that were cited as reasons to scrap the aircraft were overstated and inaccurate. There are no serious flaws with the T–46A, and the test pilots at Edwards Air Force Base will be the first ones to tell you this. Members of my staff visited Edwards Air Force Base earlier this year and they found overwhelming support for the aircraft's performance and even more support for the aircraft as a substitute for the aging T-37.

The General Accounting Office has recently issued a preliminary report on the T–46. This study, requested by the majority leader, states that the flight tests of the Air Force trainer have been very successful and that the technical tests have been outstanding. The report also states that the reliability and maintainability of the T–46 is significantly better than expected and that the trainer's air worthiness is excellent.

Mr. Chairman, Congress may direct the Air Force to continue production of the T–46A after much debate. This bitter debate over the fate of the T–46A does not have to be. If the Air Force stopped sending mixed signals to Congress on the aircraft and looked at the various options it has to limit the fiscal year 1987 financial impact of the new generation trainer program, then our young pilots will have a safer, more able aircraft with which to train. The need for a next trainer may be put off for a few years, but eventually the T-37 will have to be retired. The question we have to ask ourselves is, do we want to stop production of a new trainer that is ready to fly, or begin anew the long process of replacing the T-37 at a significant cost to the taxpayer.

Mr. Chairman, I again welcome our distinguished panel of Air Force witnesses and I look forward to the testimony of Dr. Cooper and General Randolph.

Thank you, Mr. Chairman.

Senator D'AMATO. Have you had an opportunity to look at this May 20 General Accounting report with respect to the T–46?

General RANDOLPH. No, sir; I have not.

F-37 PROGRAM

Dr. COOPER. I perused it, Senator. I might say I am in general agreement with it.

Senator D'AMATO. It is unfortunate you did not make this information available to Senator Goldwater before he took to the floor and was fed misinformation that directly conflicted with this report. Because of my deep respect for the Senator, I did not attempt to go through, piece by piece, the overstatement.

I think the Air Force certainly bears some responsibility for the lack of factual information that was used during that debate. It is one thing to try to kill a program. It is another thing entirely to use information which does not represent facts and which discredits a lot of people.

I have to tell you that this raises questions in the mind of this Senator over the validity of information I will recieve in the future—what can I believe? When can I believe it? I am going to have to take a different view as to why we come forth and assign priorities to certain programs.

This report states simply that you are going to save a lot of money with the T–46A in terms of its cost in the out-years.

How many years will the T-37 last?. Will it last 10 years?

Dr. COOPER. I believe it can last another 10 years. It can last another 5 years with modest investments. We can probably take it to another 10 years with some less modest investments.

COST OF NEW TRAINER

Senator D'AMATO. How much will it cost to go into a new program for a trainer?

Dr. COOPER. In real terms it would cost essentially what it would cost to do the T–46 today if you take escalation out.

Senator D'AMATO. In additional cost?

Dr. COOPER. I do not think there will be additional cost. I think you would pay essentially for a trainer 10 years from now what you would pay for it today if you take the escalation factor out.

Could we address any specifics on the T–46 right now?

I would like to give you my view of where the program is.

Senator D'AMATO. I have to tell you, Mr. Secretary, I have reached the point where I am deeply disappointed, disappointed in the service that has fought for and recommended the T–46.

The indication to the staff was that it would be extended, but political expedience has moved in a manner which does not do it credit, which will terminate this program after having invested hundreds of millions of dollars. There are moneys there and this program can be extended.

As a result of undertaking this action, we estimate it is going to wind up costing American taxpayers an additional $900 million to start the program again. You cannot convince me that there is any other way. I do not want to go into that.

I will tell you what question it has raised, and I have put my statement in the record. I want to look at the A–7. I suspect we have nothing more than a little bit of the old boy network.

A-7 MANUFACTURER

Where is the A–7 manufactured?

Dr. COOPER. It is not manufactured any longer.

Senator D'AMATO. Where will it be brought up to standard?

Dr. COOPER. We will compete that.

Senator D'AMATO. Will it take place at LTV?

Dr. COOPER. It is hypothetical because it is not a formal proposal in our budget right now. If we do modification, we intend to do it competitively.

Senator D'AMATO. It seems to me you have an A–7 that has poorer handling, is less survivable, has a smaller bomb load, less endurance, and less loiter time than an A–10. How can the A–7, a single-engine airplane, do the job as a close support aircraft better than the A–10? I would like to understand the logic behind this. It seems to me it is part of the old boy network. You understand where I am coming from, do you not?

Dr. COOPER. I think I understand where you are coming from on that point.

Senator D'AMATO. I'll tell you why. They make it in Texas by LTV. I think the Air Force lacks the spine to stand up and ask for what is really best. I hear the General say that it can be done, but this plane is just a small turkey that has no protection and close support.

Dr. COOPER. Let me respond, if I might.

We would prefer to have a new airplane for that mission. We would prefer to have a T–46. We would prefer to have an HH–60. I come back to the point Senator Stevens has made so eloquently. We are going to have to live with less.

It is not with any joy that the Air Force cancels the T–46 or HH–60. We talked about this off-line. It was a confluence of two things. One was budget pressure and the other one was that the airplane did have problems.

We can build that airplane today. The decision is basically sound. I would have given the program on an F to an A rating, I would have given it a D or low D back in October. I would probably put it at a C or C-minus today, probably a B in the test phase.

I still continue to believe there are production problems, but I think Fairchild has improved. The problem is that we are faced with budget pressures. That is the reason the T–46 is out.

Would we rather have it than the T–37? Absolutely, if it was bought and paid for. We would rather have a new close air support aircraft as well. I think the reason General Russ is looking at a strike fighter in the A–7 is that he is a realist and he looks downstream and there is no place in the Air Force budget right now with some of the other things we are trying to do to start a new aircraft program.

Those are the underlying reasons that we have made the decisions we have made. I recognize you choose to disagree with us on the T–46.

Senator D'AMATO. And on the A-7.

Dr. COOPER. And on the A-7.

STRIKE FIGHTER OPTIONS

Senator D'AMATO. If your analysis has brought you to the point where you are going to go forward with the A-7, it seems to me that you should go back and look at some other options.

Dr. COOPER. We are not talking about building an A-7. We are talking about taking rubber on the ramp and trying to improve it and upgrade it and live with what we have in lieu of going forward with a new aircraft.

It is less than an optimum solution, but it is the best we can do in the climate we face.

Senator D'AMATO. I wonder if it is the best you can do. My staff points out that you have a plane that starts out trailing the A-10 tremendously.

Why would you look to rework this plane?

Dr. COOPER. I am not trying to beg your question, but I do not know that we will. It is a proposal that is being looked at by the Tactical Air Command right now, but it is not formally part of the Air Force budget. I have not personally looked at it.

Senator D'AMATO. You may have trouble getting it authorized. I understand where it is coming from. You will have a tough time getting it funded; just so you will know where it is coming from.

Dr. COOPER. I recognize that right now.

Senator D'AMATO. Do you want to respond, General Randolph?

General RANDOLPH. No, sir; we are looking at the airplane. Clearly you don't like that idea. We need to look at a number of options for improving the systems we have. We have done that over the year. We have improved the C-141, improved the C-5, improved the F-16, improved the F-15.

This is just another option of potentially improving the A-7 and it is available to do that. That is all.

BUDGETARY IMPACT OF T-46

Senator D'AMATO. Mr. Chairman, let me point out the Air Force talks about the budgetary impact. The fact of the matter is that the T-46 could continue with no budgetary impact for 1987. The funds appropriated for 1986 certainly could be used for 1987.

Dr. COOPER. I think that is true. There are small dollar requirements. Unfortunately, the commitments continue beyond that with the problems we face.

Senator D'AMATO. I think it is unfortunate that we find ourselves in this situation.

Thank you, Mr. Chairman.

F-4 UPGRADE

Senator ANDREWS. Thank you, Senator.

General and Mr. Secretary, you have raised some interesting questions in my mind. We have been discussing upgrades of the F-16 and A-7. You have been talking about how they are cost effective. You have discussed the air defense fighter competition.

As I understand, this competition will not consider other aircraft such as the upgraded F-4; is that correct?

General RANDOLPH. No, sir; that is not correct. We opened the competition to all comers. In fact, the upgrade of the F-4 was being considered by the industry and when we released the request for proposal, those people who were using the upgraded F-4 elected not to bid on their own, not because of anything we did.

Dr. COOPER. It was a full and open competition. There were no restrictions whatsoever. They could be new production aircraft, new aircraft never been built, or modifications to current inventory aircraft, which would be the F-4.

Senator ANDREWS. If, because of budget constraints, the air defense fighter buy line has to come out of the 228 tactical fighters, would the F-4 be a viable alternative?

Dr. COOPER. For that particular role?

Senator ANDREWS. Yes.

Dr. COOPER. Well, it certainly would be a viable alternative, but we would have expected it to have been bid as part of the competition. I do not think we would turn around and go sole source.

COST OF F-4 UPGRADE

Senator ANDREWS. Sometimes you wonder why it was not bid as part of the competition. If you have newly manufactured airframes such as the F-20, some old style containing some upgrade such as the F-16 versus F-4's that are now in inventory and putting, in essence, as I understand, the F-15 radar into it because they will carry it, there may be a dollar incentive that simply is not there in the current competition.

Now, have you penciled out the dollar cost to the taxpayer or the Defense Department for taking the F-4's we do have on hand and putting, in essence, the F-15 radar in it?

Dr. COOPER. Sir, we looked about a year ago and maybe a little bit more than that, separate and distinct from the air defense fighter competition, at going in and reengining the F-4's and doing a major avionics upgrade and as well, I believe putting conformal fuel tanks on it.

It turned out that program, as I recall, and I will give you rough numbers, has the modified F-4 of that version coming in at $10 million a copy. To my knowledge, we have not done any analysis beyond that.

Senator ANDREWS. You know we have done a reenginging of what we talked about, I guess of the F-4. We made it smoke less, some other things. I am talking about the APG-63 radar package which is the F-15 radar package.

I have been informed by people who fly these things that neither the F–16 or F–20 will be capable of performing the air defense mission against cruise missiles and that the F–4 upgraded with this F–15 radar can be operational until the year 2000.

Would not this enable the Air Force to get to 40 tactical wings despite projected budget constraints?

General RANDOLPH. Without getting into classification, one of the requirements in the RFP was to be able to defend against cruise missiles. So, all of the air defense airplanes that bid have to meet that requirement. So, the F–20, F–16, and if the F–4 had bid, all had to meet that requirement. I can assure you from a technical perspective I have looked into it and the radars are adequate to do that in each airplane.

Senator ANDREWS. You say you can get a big enough radar in the airframe structure of the F–16 to enable it to do the job that the F–15 radar can do?

General RANDOLPH. Yes, sir. The radar, as you know, in the case of the F–16 is not as good as the F–15 radar, but, nonetheless, it is adequate to get that job done.

COST ANALYSIS

Senator ANDREWS. I don't like that business of not as good. The point is that you have an airframe out there. You have a lot of hours left in it. Time after time I have been told by the people who actually fly them that rather than hang around with the F–16 or F–20 with this kind of radar, they would like to have, if they cannot get an F–15, they would like to have an F–4 with the F–15 radar.

Can you provide the committee with a cost analysis, briefly—I do not want a long costly type thing, but I want to find out where your workpapers are that show that you cannot, in effect, put this type of radar, reengining, in the F–4 you have and do it better and more cost effective than to go with those other weapons systems.

I understand a lot of people will come in and bid this package you are asking for, would just as soon create a basic new airframe and would like to add this and that. My concern is that we have a lot of these airframes that could be used for this kind of mission. If you could give me some paper on it.

Dr. COOPER. We can give you some analysis we have already done on that.

Senator ANDREWS. I assume you have done that analysis. Give it to me and then we will know.

Can you do it with and without the reengining?

Dr. COOPER. Yes, sir; we can break that down.

General RANDOLPH. It was the purpose of the competition. The competiton laid out the fact that we would do a cost-benefit analysis, that is performance as a function of dollars, so that the guy who could give us the best production for the lowest price was the guy who was going to win.

F–4 PACKAGE BIDDING

Senator Andrews. That is right. That is the way we bid. The response you gave me earlier is that nobody bid the F–4 package.

General Randolph. Yes, sir.

Senator Andrews. The F–4 package I am talking about is the F–4's that we have on hand.

Dr. Cooper. That would have been the package that they would have bid. We had anticipated until I guess about early April that they were going to bid. That was the early indication.

General Randolph. In fact, two different companies gave us an indication. We were quite pleased with that because that puts more pressure in the competition, and they failed to do it.

Senator Andrews. I get awful suspicious because of the reasons they bid. They have no interest necessarily in saving the money, at least not as much as we have. They may be overlooking this particular alternative because there are more dollars involved in redoing a different type aircraft than modifying the F–4.

General Randolph. Could I take 2 seconds and explain how we do this competition?

We gave everybody the opportunity to bid. Furthermore, we had a discussion with the guys in the industry to make sure that they understood what we were looking for and made sure they understood we wanted them to take advantage of this opportunity to bid.

They asked questions, both in the open forum and they also asked us questions for the record before we actually released the formal RFP. We had a draft RFP on the street. We gave them every opportunity and they did not take advantage of it.

Senator Andrews. Gentlemen, we have heard—and, of course, it is amazing, the years I have been on the Appropriations Committee, 21 years now, you learn to keep your ears open. At least that is the way we did it over there—I have heard repeatedly on the street that there was no real competition because the majors, in essence, were told to be good boys and do not go this way, go this other way. Rumors about those kinds of suggestions have occasionally proved to be true.

That is why I would be interested in finding out about your analysis. The people who are flying the F–4's think this is a good way to go. If they give us the figures and if then later on you come up and say, sorry, nobody bid that way, and that is after I had been told there was no real competition because of some, shall we say, delicate suggestions being floated around, you can understand that I cannot let the issue go away.

You can be assured we will look at it very closely. If you could get that, it would help us.

[The information follows:]

COST ANALYSIS

Analyses to date indicate that an air defense force composed of F-4's with a new radar and new engines would not be better or more cost effective than a force which includes F-16's. Such analyses have not been accomplished for the F-20.

Our initial look at NGB strategic defense F-4 alternatives analyzed two alternative force structures: One with 6 F-4 squadrons replacing 6 NGB F-16 units and another with 10 F-4 squadrons replacing 4 NGB F-15 units and 6 NGB F-16 units. This 1983 study incrementally upgraded the F-4's and examined performance at each level of upgrade. Upgrades were: a generic pulse doppler radar with characteristics similar to the APG-65 (F-18) or APG-66 (F-16), conceptual conformal fuel tanks which gave the F-4 200 additional miles in range, and the advanced medium range air-to-air missile. In this quick look study, both the 6 and the 10 F-4 squadron options were less capable in air defense than the force of NGB F-16's and/or F-15's.

The F-4 reengining study, which we conducted in response to fiscal year 1986 Appropriations conference direction, indicates that reengining would not provide a significant performance payoff in terms of range or combat capability. At an estimated minimum cost of $7 million per aircraft, reengining would not be cost effective, either in terms of targets killed per dollar, or operations and support costs.

In 1985, Hughes Aircraft Co., under an Air Force contract, studied the feasibility of installing the F-15 APG-63 radar in the F-4D. The engineering report concludes that installation is feasible if: the F-4D nose section is extended 18 inches, special data transfer ports are added to the F-4D's new mission computer, and new cooling equipment is installed in the aircraft. The effects that the nose extension would have on structural life and flight characteristics are unknown. The study did not address cost; however, we have made some rough estimates based on the results of the report, estimates from other contractors, and experience with other aircraft modifications.

Service life projections for the F-4D show that by 2001, all but 180 aircraft will require wing replacement. The number of aircraft with sound wings decreases dramatically after 2001 to 107 in 2003, down to 10 in 2007. Estimating that the modification could possibly be complete in 1994, we might get approximately 9 years of operational use out of most of the aircraft involved in the modification.

Preliminary APG-63 cost estimates for seven squadrons of F-4D's, or 180 aircraft, are: $441 million for the radar and other hardware, $20 million for labor, $50 million for support equipment, $74 million for spares, and $30 million for engineering, software, and other items, for a total of $615 million. In addition, installing a digital radar in the F-4D may require rewiring the aircraft. We are currently studying the technical complexity and cost of a rewiring effort. Based on the above preliminary estimates, we believe that the cost of a new radar and new engine modification program for 180 aircraft could approach or exceed $2 billion.

We will be pleased to provide the above mentioned studies if you desire.

C-17 PROCUREMENT FUNDS

Senator ANDREWS. Now, on another subject, to get back to the C-17. The budget plan is to procure four test R&D aircraft with procurement funds. The aircraft we transferred to the operational inventory after completion of the testing program, would these aircraft be funded out of R&D instead of procurement?

General RANDOLPH. Part of the test program includes using some of the first procurement airplanes off the line to work the test program. As you just pointed out, those airplanes would be put into the inventory. They are inventory airplanes.

One of the things you have to do in any test program is build hours on the airplane. We would use those first airplanes to do that.

Senator ANDREWS. You would be using R&D and that is why they were funded out of R&D. The structure this subcommittee has to look at would be a little different than out of procurement.

General RANDOLPH. We are using them in the test program.

Senator ANDREWS. Wouldn't you call a test program more R&D than procurement?

General RANDOLPH. I am using a production asset in the test program. We have examined that very closely and we believe that that is an appropriate procurement item. It is part of the force structure.

Senator ANDREWS. Would it not be also an appropriate R&D item?

Dr. COOPER. Those aircraft are being produced on production tooling. If we were to restructure the R&D program and build them in R&D on soft tooling, we would have two sets of tooling charges. We felt it a wise thing to go ahead and build them out of production tooling.

Senator ANDREWS. Can we fund them in R&D and not have procurement funding until 1988?

Dr. COOPER. I guess, strictly in a budgetary sense, we could fund them in R&D. What we should be doing is transferring the production funds over to the R&D account.

General RANDOLPH. There is a difference. The thing we are using for procurement money for this fiscal 1987 is to establish that line, that is the tooling. So, if you go in to use that money for R&D, you cannot buy procurement tooling with that R&D fund.

Dr. COOPER. You would have to waive that. If you want to put it all in R&D, if you provided that waiver, we could use money for production tooling, but in terms of production guidelines, if you are producing from hard tooling, we have to pay for the hard tooling out of production funds.

C-17 WARRANTY

Senator ANDREWS. Does the C-17 still carry the warranty as when it was first proposed?

Dr. COOPER. Yes, sir; that warranty has probably been expanded and may even be better.

DEFERRING FISCAL YEAR 1987 PROCUREMENT FUNDING

Senator ANDREWS. Due to growing budget pressures, several options have emerged to zero for fiscal year 1987 procurement funding for the C-17.

What program and cost impacts would that have on developmental testing?

Dr. COOPER. Senator, could we supply a little bit more on that for the record, not to avoid the question, but I think we have hit on the key element. If you cut the production funds, then you do not buy the tooling, you do not start production of test assets in the R&D program.

General RANDOLPH. We did an analysis which, as Dr. Cooper says, we will submit for the record, but it does increase the cost of the program by about a billion dollars.

Senator ANDREWS. If you can provide that information, it would be very helpful.

Dr. COOPER. It also slips the capability, which is equally important.

[The information follows:]

C-17 PROCUREMENT FUNDS

The fiscal year 1987 production funds will be used to fund aircraft long-lead items ($35 million) for the planned procurement of two aircraft in fiscal year 1988 and production startup costs ($182.3 million). The $217.3 million is a contract requirement to be awarded in the first quarter of fiscal year 1987.

Deferring the full $217.3 million in fiscal year 1987 procurement funds will delay the start of developmental testing, as well as production, 1 year. The production options would have to be renegotiated, the RDT&E schedule would have to be restructured because of the delayed start in fabrication/assembly of the three test articles, and the development contract would exceed the 10-year statutory limit and would require a congressional waiver. Additionally, first flight and initial operational capability would be delayed 1 year to fiscal year 1991 and fiscal year 1993, respectively. Finally, total program cost would increase approximately $1.25 billion.

If just the $35 million in aircraft long lead was delayed, the start of developmental testing could be held to the current schedule and delivery of the flight test article would remain in fiscal year 1990. The impact stated above would be the same except the RDT&E schedule and first flight date would not change. The RDT&E test program would, however, be extended nearly a year. Total program cost would increase approximately $1.1 billion with this alternative ($150 million less than deferring the full $217.3 million).

F-16 PRODUCTION INCREASE

Senator ANDREWS. On the F-16 program, last year Congress approved advance procurement for the purchase of 180 F-16 aircraft, the same as the Air Force is requesting in 1987.

Why are you now increasing production to 216 aircraft in fiscal 1987?

Dr. COOPER. Senator Andrews, as you may recall, 3 years ago when we first briefed to you the tactical fighter road map, we showed our out year production levels on the F-16 being 216. That, coupled with the F-15, brought us to the roughly 260 aircraft we felt we needed to stay on the 40 tactical fighter wing road map.

Unfortunately, we had to cut that back because of budget constraints. This year there was a conscious decision made in the building that we are going to try to get back on that path to 40 tactical fighter wings in the early nineties. We built the F-16's back up to 216. It is as simple as that. It is an indication of where our priorities are for the tactical force.

Senator ANDREWS. That is why I asked the question, because the increase of 36 aircraft costs about $450 million. This increase occurs at the same time the Air Force proposes to cancel procurement of the T-46 and the HH-60 because of financial constraints.

You mentioned your priorities. It does show your priorities.

Dr. COOPER. Yes, sir.

Senator ANDREWS. Why is the increase in F-16 production warranted at this time when you are canceling these others?

Dr. COOPER. Simply because that is where we feel the threat is. We feel it is important to get to the 40 tactical fighter wings, to have the rubber on the ramp. We believe we can continue to stay with the T-37 in the interim.

COST SAVINGS PER UNIT

Senator ANDREWS. We would think if you would increase production, you would get cost savings per unit, but this does not show any cost saving per unit. Every time I have been out in the field, every time we have listened to you, the time I have been on this subcommittee, I have heard about the fact that you get with a production quantity increase a unit cost decline.

Yet with this production quantity increase, the unit cost is projected to increase in 1987 at $12.9 million. It is $12.4 million now.

General RANDOLPH. The unit cost did decrease by $700,000 for the same equipment. We added additional equipment to the airplane and that is the reason why the unit cost went up.

APG-66 RADAR

Senator ANDREWS. I understand you decided to revert back to the cheaper APG-66 radar instead of the APG-68.

What factors caused you to make that decision, and where did you get the increased value when you are cutting back on the radar?

General RANDOLPH. The AGP-66 radar was only to be put on a certain number of the airplanes. I think there was an initial report that suggested that we were going to put the APG-66 radar in about half the airplanes.

We are in the process of determining exactly the proper number to use the AGP-66 radar. That lesser capable radar was decided to be used on those airplanes that would be equipped with the LANTIRN pods.

The reason we decided to do that is because the LANTIRN pods have a capability in and of themselves and it was not necessary to have the more capable APG-68 radar on those airplanes.

FLYAWAY COSTS OF F-16

Senator ANDREWS. Let me run by you some of the figures that concern this committee because we have been told that we ought to get going, we ought to decide which kind of plane we want, what kind of tank we want, we ought to buy them in quantity with savings in unit cost.

Now we are increasing the buy in fiscal year 1987 over fiscal year 1986. Yet I am told despite this increase in quantity from 180 to 216 aircraft, which is about a 20-percent increase, the airframe unit cost will increase 4.9 percent from fiscal year 1986 to fiscal year 1987. The propulsion cost will go up 3.3 percent. Avionics will go up 28.6 percent.

The avionics in the Government is down because of the change from the better radar to the cheaper radar, and that is a drop of 5.8 percent. Now we see that the total recurring flyaway cost is $12.4 to $12.8 million.

This is a bird that you are sending out to find things and you cheapen the thing that helps them find them. You have increased despite a 20-percent increase in volume, we have invested in such basic things as airframe units and propulsion.

Where do we get the quantity discounts that we have been told will come around if we buy more?

General RANDOLPH. If you will check the accounting numbers, you will find there is a $700,000 unit cost decrease, not an increase. The reason why you have problems is that in the acccounting system that we use we have advanced buy money, we have weapon systems money, and there is money in the fiscal 1987 budget for the advance buy for next year.

When you put all that money into it, the accounting system would indicate an increase.

PROGRAM SUPPORT COST REDUCTIONS

Senator ANDREWS. The costs are going down, as I understand it, because the program support costs are going down. The program support costs will go down this particular year whether you buy 180 or 216.

General RANDOLPH. It is a true statement that the program support cost will go down. The numbers I gave you on the increased unit cost on an apples to apples base is a number we can verify and we will be happy to do that in some detail.

Senator ANDREWS. Why don't you verify that for us, General?

General RANDOLPH. Yes, sir; we will do that.

Senator ANDREWS. Give us that information because, again, I think we have gotten into something we would like to look at a little closer than we can right now. If you can provide that for the record, we will have our staff look at it so that we can decide whether we are comparing apples with apples or apples with oranges.

[The information follows:]

COST SAVINGS PER UNIT

The recurring flyaway cost of the F-16 increases from FY 1986 to FY 1987. The attached chart presents a break-out of the procurement cost contributors of the FY 1986 and FY 1987 F-16 aircraft and intervening delta costs. However, the total unit flyaway cost decreases from $14.1 million in FY 1986 to $13.9 million in FY 1987.

Concerning the F-16C/D radar, the Air Force continues its search for cost saving measures. The Air Force is studying alternative APG-68 and APG-66 radar configurations to decrease unit cost while protecting radar capability.

Concerning support, the attached P-5 exhibit is highlighted to show support costs decreasing from $376 million in FY 1986 to $322.5 million in FY 1987. Also from the P-5 exhibit, note the unit gross P-1 cost of an FY 1987 F-16 is $15.4 million. If the FY 1987 procurement of F-16's is reduced to 180, the unit gross P-1 cost of the remaining aircraft increases $700 thousand to $16.1 million per aircraft.

F-16 UNIT FLYAWAY COST TRACK

FY 1986 - FY 1987
(TY$ in Millions)

FY86 (180 Aircraft)		Net Change/Explanation			FY87 (216 Aircraft)
Airframe	4.68	+.21	/ Inflation	+.21	4.89
			/ Rate Benefit	-.06	
			/ Chgs for MSIP III	+.11	
			/ Indus Tech Mod	-.05	
Engine	3.29	+.11	/ Inflation	+.14	3.40
			/ Rate Benefit	-.06	
			/ Generic Engine Est	+.03	
Avionics	2.53	+.09	/ Inflation	+.11	2.62
			/ Rate Benefit	-.02	
			/ Radar Mix	-.44	
			/ ASPJ Group B	+.22	
			/ Adv IFF Group B	+.08	
			/ Adv RWR Delta	+.14	
Remainder	1.92	0			1.92
Unit Recurring Flyaway Cost	12.42	+.41			12.83
Non-recurring Expense	1.66	-.58	/ Total non-recurring expense in FY86 was $299.3 million while FY87 will require $232.7 million		1.08
Total Unit Flyaway Cost	14.08	-.17			13.91

AIRCRAFT COST ANALYSIS
(DOLLARS IN MILLIONS)

Date: February 1986

Aircraft Model: F-16

Popular Name: Fighting Falcon

Manufacturer: General Dynamics

Program Item	FY85 Qty: Unit Cost	150 Total cost	FY86 Qty: Unit Cost	180 Total Cost	FY87 Qty: Unit Cost	216 Total Cost	FY88 Qty: Unit Cost	216 Total Cost
1. Airframes/CFE	$4.805	$720.8	$4.676	$841.6	$4.886	$1,055.4	$5.069	$1,094.9
2. Engine/Accessories F100(P&W);F110(GE)	$3.390	$508.5	$3.285	$591.3	$3.396	$733.6	$3.395	$733.4
3. Avionics:								
CFE	$0.737	$110.5	$0.694	$124.9	$0.893	$192.8	$1.106	$238.9
GFE	$1.743	$261.4	$1.837	$330.7	$1.730	$373.6	$2.955	$638.2
4. Armament	$0.645	$96.8	$0.683	$123.0	$0.638	$137.9	$0.663	$143.1
5. Other GFE	$0.275	$41.2	$0.333	$60.0	$0.353	$76.3	$0.378	$81.7
6. ECO (all flyaway components)	$0.175	$26.2	$0.291	$52.3	$0.291	$62.8	$0.308	$66.6
7. Non-recurring Costs		$291.3		$299.3		$232.7		$93.0
8. Other Costs	$0.353	$52.9	$0.618	$111.2	$0.644	$139.2	$0.634	$136.9
9. FLYAWAY COST	$12.122	$2,109.6	$12.417	$2,534.3	$12.832	$3,004.3	$14.508	$3,226.7
10. Airframe PGSE	$0.601	$90.2	$0.819	$147.5	$0.599	$129.4	$0.986	$213.0
11. Engine PGSE	$0.261	$39.1	$0.159	$28.7	$0.122	$26.3	$0.166	$35.8
12. Avionics PGSE	$0.106	$15.9	$0.179	$32.3	$0.038	$8.3	$0.152	$32.8
13. Peculiar Training Equipment	$1.021	$153.2	$0.755	$135.9	$0.658	$142.2	$0.592	$127.8
14. Publications/ Tech. Data	$0.074	$11.1	$0.176	$31.6	$0.059	$12.8	$0.213	$45.9
15. ECO (All Support Items)	$0.000	$0.0	$0.000	$0.0	$0.016	$3.5	$0.025	$5.4
16. Other	$0.000	$0.0	$0.000	$0.0	$0.000	$0.0	$0.000	$0.0
17. SUPPORT COST	$2.063	$309.5	$2.089	$376.0	$1.493	$322.5	$2.133	$460.7
18. Gross P-1 Cost	$16.127	$2,419.1	$16.168	$2,910.3	$15.402	$3,326.8	$17.071	$3,687.4
19. Less: Prior Yr. Adv. Proc.	$2.956	$443.4	$2.324	$418.3	$2.060	$444.9	$3.203	$691.9
20. Net P-1 Cost	$13.171	$1,975.7	$13.844	$2,492.0	$13.342	$2,881.9	$13.868	$2,995.5

ATF PROGRAM

Senator ANDREWS. Now, the advanced tactical fighter key issue in the design effort is the tradeoff between low observability and performance range, thrust to weight, excess power available for maneuvering.

General, at this juncture, what is the cost driver in the ATF Program, low observability or aircraft performance?

General RANDOLPH. Aircraft performance, without a doubt.

Dr. COOPER. Could I add something to that?

There is another variable you need to throw in. It is aircraft performance, low observability, and also electronic countermeasures to make a distinction, not including ECM as part of performance.

Those three things are what we look at balancing in our aircraft design. It is a very key point in the avionics. By performance, I assume you mean speed and turning capability. You also have the electronics and signature of the aircraft. Those three we need to balance to give us the highest survivability to lowest cost, maintaining the overall performance that we need.

ATF PROTOTYPING

Senator ANDREWS. I understand you recently restructured ATF to incorporate a prototype competition, the old kind, old fashioned flyoff. This change adds nearly $500 million in R&D cost to the ATF budget between fiscal 1987 and 1990. That is $500 million, a very good piece of change.

Is this program restructuring affordable in view of the other Air Force funding priorities?

General RANDOLPH. We expect the prototyping to, in effect, reduce the cost. There are several reasons why we want to do prototyping.

First of all, it is necessary to get this airplane into the field as soon as we can and we are shooting for a mid-1990's initial operational capability.

However, at the same time we want to be sure we reduce the risk so that this is an affordable airplane. This is another reason for prototyping.

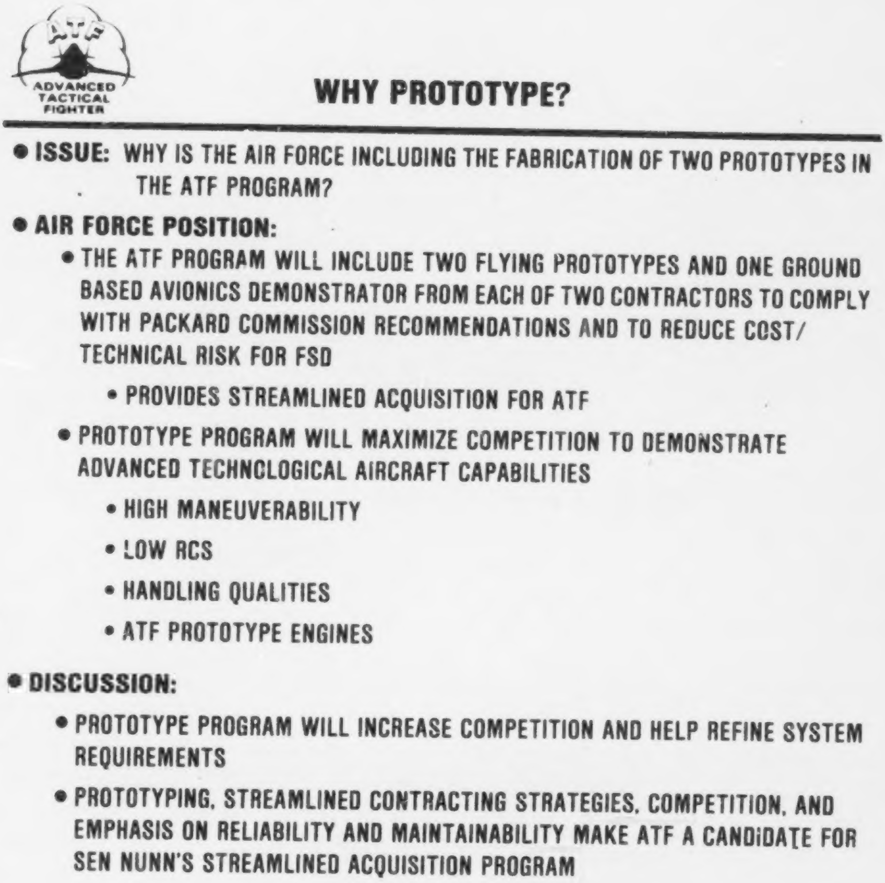
Third, the Secretary took a look at some of the suggestions that came out of the Packard Commission. He felt this was precisely the type of program that should be prototyped and should follow the guidance provided to us by the Packard Commission. That is the reason we did the prototyping.

BENEFITS OF ATF PROTOTYPE COMPETITION

Senator ANDREWS. You are giving reasons. Let me come at you from a specific direction.

What specific benefits do you expect to achieve from the ATF prototype competition to justify the up-front investment?

General RANDOLPH. There is a chart that talks to that. Of course, the major benefit that we get out of it is risk reduction. We believe, at least I personally believe, that we get improved competition.



WHY PROTOTYPE?

- **ISSUE:** WHY IS THE AIR FORCE INCLUDING THE FABRICATION OF TWO PROTOTYPES IN THE ATF PROGRAM?
- **AIR FORCE POSITION:**
  - THE ATF PROGRAM WILL INCLUDE TWO FLYING PROTOTYPES AND ONE GROUND BASED AVIONICS DEMONSTRATOR FROM EACH OF TWO CONTRACTORS TO COMPLY WITH PACKARD COMMISSION RECOMMENDATIONS AND TO REDUCE COST/TECHNICAL RISK FOR FSD
    - PROVIDES STREAMLINED ACQUISITION FOR ATF
  - PROTOTYPE PROGRAM WILL MAXIMIZE COMPETITION TO DEMONSTRATE ADVANCED TECHNOLOGICAL AIRCRAFT CAPABILITIES
    - HIGH MANEUVERABILITY
    - LOW RCS
    - HANDLING QUALITIES
    - ATF PROTOTYPE ENGINES
- **DISCUSSION:**
  - PROTOTYPE PROGRAM WILL INCREASE COMPETITION AND HELP REFINE SYSTEM REQUIREMENTS
  - PROTOTYPING, STREAMLINED CONTRACTING STRATEGIES, COMPETITION, AND EMPHASIS ON RELIABILITY AND MAINTAINABILITY MAKE ATF A CANDIDATE FOR SEN NUNN'S STREAMLINED ACQUISITION PROGRAM

SLIDE 16

INCREASED COST OF DEVELOPMENT PROGRAM

Here is the discussion here about why prototyping. It streamlines the acquisition. It takes that issue that you were talking about a little bit earlier—that is, the performance—and allows us to go into a demonstrated risk reduction program, high maneuverability, handling qualities, and use of those engines.

I believe it also increases the competition and it gives us an opportunity to get a better product for less money.

Now, let me address that point you made about moving the dollars up because that is exactly what we did. We did not increase the cost of the development program. We moved the dollars forward so that we could enter that risk reduction effort earlier.

That is one of the things we wanted to be sure that we took into account in switching to this prototype approach.

AMRAAM DESIGN MODIFICATION

Senator ANDREWS. Now, the ATF, as I understand it, will have internal weapons carriage. None of your current air-to-air missiles were designed for internal carriage, including AMRAAM.

What design modification will have to be made to AMRAAM's and Sidewinders to make them ATF compatible?

General FERGUSON. First of all, we think you can fly the AMRAAM in an internal carriage mode. We have done some studies already which indicate that certainly would be feasible to do without any modifications.

If you want to increase the density of weapon carriage, then you would want to make some modifications such as folding the wings and fins. Once again, the studies that we have completed indicate you should be able to do that and, therefore, increase the density of the internal carriage.

Senator ANDREWS. What are the associated costs for these kinds of modifications?

General FERGUSON. We really have not gone that far to define exactly what the cost will be. You just put a link on the wings and fins and what concept might ultimately be selected would indicate probably the ultimate cost.

Certainly, I do not think you would be talking about costs that would go more than 5 percent.

Senator ANDREWS. Why don't you supply as much information as you can on these associated costs for the record.

General RANDOLPH. Yes, sir; we will do that.

Senator ANDREWS. That would be very helpful.

[The information follows:]

DESIGN MODIFICATION

The major costs of making the AMRAAM and Sidewinder missiles compatible with the advanced tactical fighter [ATF] aircraft are expected to be associated with the launch mechanism within the weapons bay of the ATF (there would also be some missile costs should the higher density configuration be pursued). However, at this time detailed launcher production costs cannot be estimated due to the fact that the ATF design has not been selected and the specific launcher mechanism is still unknown. Originally, a risk reduction effort for an internal carriage demonstration was planned at an estimated cost of $25 to $32 million for the design, development, fabrication, and launch of six to eight compressed carriage AMRAAM's from an F-111 weapons bay to simulate ATF launches. Now that the ATF is planning for a prototype Dem/Val program, a missile launcher mechanism risk reduction task may be proposed by some of the ATF contractors. In that case, compressed carriage AMRAAM missile full-scale development [FSD] program would be structured to be compatible with the new ATF schedule. Preliminary cost estimates will be available following the ATF Dem/Val contract award, tentatively planned for the first quarter of fiscal year 1987.

AMRAAM PRODUCTION BUILDUP RATE

Senator ANDREWS. Gentlemen, the GAO has analyzed the production rate buildup of several comparable missiles and concluded the plan for AMRAAM is optimistic. One GAO proposal calls for reduction of 80 missiles down to 180 and a reduction to $200 million this year. This would reduce the production buildup rate for the two producers without increasing program costs, allow more time to get the cost reduction changes in the production.

What is the impact of such an adjustment?

General FERGUSON. Specifically on the cost that the Secretary certified to, sir, for the overall program, we do not believe the 180 option that GAO has proposed would affect the cost cap.

Senator ANDREWS. Is that an executable program from your point of view?

General FERGUSON. Yes; we believe it is. It would build the ramp rate just slightly lower in our second production lot, but we should be able to meet our full rate production essentially on schedule.

It would not affect the competition that we worked so hard to build into the program and because there are very few missiles being removed at the beginning of the program, we believe those costs could be recovered later.

F-15E PROGRAM

Senator ANDREWS. Finally, does maintaining your IOC for the F-15E require fully funding the fiscal 1987 R&D request?

General RANDOLPH. Yes, sir; it requires fully funding of the 1987 R&D request for the F-15E. If you recall, that is about $80 million out of the $209 million that we requested for the F-15.

Senator ANDREWS. That is right. At this point, is that a higher priority than maintaining aircraft procurement at 48 per year?

General RANDOLPH. I would say that making sure that we are able to field the F-15E on the schedule that we proposed certainly is a very high priority.

Senator ANDREWS. Is it higher priority than maintaining the procurement of 48 per year?

Dr. COOPER. You cannot do one without the other. The two are linked. You have to do the R&D if you are going to field the aircraft. You have to say the R&D is very high priority. If you do not do it, you will not have an F-15E.

SUBMITTED QUESTIONS

Senator ANDREWS. Senator Weicker has some questions he would like to have answered for the record. He is unable to attend today. We will submit those to you.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED BY SENATOR WEICKER

UH-60A HELICOPTERS

QUESTION: In fiscal years 1981-1982, the Air Force procured 11 Army UH-60A helicopters for a total of $63 million, including initial spares, or at an average unit cost of $5.7 million. The original plan was to buy 17 UH-60As "off-the-shelf" and to modify them for the special operations and combat rescue missions at a later date. Ten unmodified UH-60As are currently assigned to the 55th Aerospace Rescue and Recovery Squadron at Eglin AFB, FL. These are "combat coded" aircraft. Are the UH-60As assigned to the 55th ARRS capable of performing the combat rescue mission?

ANSWER: The UH-60A helicopters assigned to the 55th Aerospace Rescue and Recovery Squadron are minimally capable of performing the combat rescue mission. We are currently upgrading the UH-60A with range extension, night vision goggle compatible lighting, and wire strike protection. We are also evaluating additional modifications designed to further enhance the combat capability of the UH-60A.

UHF-DF RADIOS

QUESTION: Have these helicopters been equipped with UHF-DF (direction finding) radios? If not, why? When will they be so equipped?

ANSWER: The UH-60 helicopters are not currently equipped with the UHF-DF equipment as the aircraft were procured in the Army configuration which does not include UHF-DF equipment.

A Modification Proposal and Analysis (MPA) to install UHF-DF equipment on the UH-60A has been completed and the proposed modification was approved by the WR-ALC Configuration Control Board on 5 Jun 86.

The following milestones have been established:

Trial Installation	-	FY 2/88
Production Installation	-	FY 3/88 - 4/88

HELICOPTERS FOR COMBAT RESCUE MISSION

QUESTION: Does the Air Force have a requirement for additional helicopters for the combat rescue mission? If so, how many?

ANSWER: The Air Force still has a validated requirement for the modernization of our combat helicopter fleet. We are in the process of evaluating several options to modernize our combat helicopter force in light of current fiscal constraints and competing priorities. Until we complete this effort, we cannot determine the proper mix and quantity of helicopters needed for combat rescue.

ADDITIONAL HELICOPTERS FOR COMBAT RESCUE MISSION

QUESTION: If additional helicopters are needed and if the UH-60A is adequate for the mission, why not buy additional UH-60As and modify them as required in line with the original plan?

ANSWER: The current Army production UH-60A represents a utility helicopter which is not equipped to satisfy USAF combat rescue requirements due to a lack of range, navigation, and defensive systems capabilities. To provide a minimum capability to conduct extended range combat rescue operations in a night, clear weather, threat environment, a derivative of the basic UH-60A is required and should be equipped as a minimum with the following upgrades;

(1) Aerial refueling and auxiliary fuel tanks

(2) Growth engine, transmission, and hoist developed for the SH-60B

(3) Self-contained precision navigation system such as a doppler and INS combination

(4) Night vision goggle compatible lighting and displays

(5) Secure communications

(6) Radar warning receiver, flare/chaff dispensers, IR jammer, and defensive weapons

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QUESTIONS SUBMITTED BY SENATOR STENNIS

IMPACT OF THE SALT II DECISION

QUESTION: President Reagan recently announced that the Administration would no longer be bound by the terms of the SALT II arms control agreement in making decisions about strategic nuclear weapons. How does this decision affect Air Force plans for strategic aircraft? Is the Air Force considering revising its outyear procurement plans?

ANSWER: President Reagan's decision on SALT II does not affect Air Force plans for strategic aircraft. The Air Force does not need to revise outyear procurement plans. Its current plan, part of the President's Strategic Modernization Program, provides the optimum balance of cruise missile carriers and penetrating aircraft.

ADDITIONAL PROCUREMENT OF B-1 BOMBERS

QUESTION: Could this decision lead to additional procurement of the B-1B bombers beyond the 100 aircraft already on order?

ANSWER: No. The Department of Defense and Air Force position remains to procure 100 B-1B's and deploy the ATB. The DoD Bomber Study calls for a mixed force of B-52's, B-1B's and ATB's in the early 1990's. There is currently no procurement strategy for more than 100 B-1B's.

B-52 BOMBER CONVERSION

QUESTION: What is the impact of this decision on the program to convert B-52 bombers to carry cruise missiles.

ANSWER: The President's decision on SALT II compliance will allow the Air Force to continue its cruise missile integration program without a delay. The Air Force program calls for ALCM conversion of the B-52Hs followed by cruise missile integration on the B-1B in the early 1990s as the ALCM B-52G retires.

ADVANCED TACTICAL FIGHTER (ATF)

QUESTION: Why does the Air Force need to develop a new tactical fighter? What qualities will the new aircraft possess that are not available in existing aircraft designs?

ANSWER: The Air Force needs to develop a new air superiority fighter by the mid-1990's, to counter the emergence, in large numbers, of advanced Soviet fighters which have vastly improved maneuverability, acceleration, and fire control capability (all aspect, look-down/shoot-down, and beyond visual range). Unless countered, these aircraft will erode the low altitude sanctuary used by our interdiction aircraft in support of the air-land battle.

ATF is designed to penetrate and survive in high threat enemy airspace, provide a first-look, first-kill capability, attack high value platforms, and provide an umbrella of protection for aircraft engaged in air-to-ground operations.

Additionally, ATF is being designed from the outset with improved reliability and maintainability that will allow the sortie rates required to counter the threat; rates which are unattainable from improved current generation aircraft. Other qualities included in ATF that are not available in existing aircraft are: efficient supersonic cruise and maneuver without afterburner; reduced observables; superior situational awareness; integrated propulsion, flight, and fire controls; short takeoff and landing; and, rapid turnaround in austere environments. A new aircraft is required to capitalize on current technologies which will provide the required combination of lethality, survivability, productivity and affordability.

DEVELOPMENT COST OF ATF

QUESTION: How much is the total cost to develop this new tactical fighter?

ANSWER: The total cost to develop the ATF, as reported in the FY 1986 Selected Acquisition Report (SAR) will be approximately $10 billion in FY 1985 dollars ($12.4 billion in then-year dollars). The impact on total development cost of restructuring the program to include prototype aircraft is currently under review, and will be reported in the December 1986 SAR for ATF.

The acquisition strategy for the competitive demonstration/validation prototype phase encourages teaming and seeks "best effort" flying prototypes with available funds. Near term budgeting for the ATF has been increased to incorporate prototype aircraft in the Demonstration/Validation phase of the program. However, the experience and data gained with prototypes will help reduce the cost and technical risk of Full Scale Development.

DUPLICATION OF ATF

QUESTION: Is the Navy involved in the development effort? How is the development program being managed to preclude duplication of Navy and Air Force development programs?

ANSWER: Differences in the ATF and ATA missions require different aircraft, i.e., aerodynamic designs, engines, sensors and weapons. However, the Air Force and Navy have been working closely for several years to ensure that concurrent development of the ATF and ATA avoids duplication of effort and capitalizes on opportunities for commonality and cooperative development of critical technologies, subsystems and components, particularly in the area of electronics. A joint ATF/ATA Commonality Working Group is managing that effort and responding to direction by the Senate Armed Services Committee to examine the feasibility of a goal of 90 percent commonality of electronics between the ATF and ATA. A number of areas with potential for commonality have been identified, including standard modular avionics architectures, INEWS, ICNIA, controls and displays, ultrareliable radar, fiber optics, crew system and escape technologies, lightweight hydraulics, and structural materials. The Aircraft Avionics Commonality Status Report was delivered to Congress in May.

NAVY AND AIR FORCE DEVELOPMENT PROGRAMS

QUESTION: Are there other aircraft development programs that involve both the Navy and the Air Force? How are these programs working?

ANSWER: Yes. The Air Force and Navy are working jointly on the V-22, "Osprey," tilt rotor aircraft. The development program started in 1982 and Full Scale Development began on 1 May 1986. The Air Force is funding only those systems unique to the Special Operations Force (SOF) mission requirement. Both the Navy and Air Force will participate in the Development Test and Evaluation (DT&E) and Operational Test and Evaluation (OT&E) at the contractor's facilities. First flight is scheduled for June 1988.

REVISION TO ATF DEVELOPMENT PROGRAM

QUESTION: The Air Force recently announced a decision to revise the Advanced Tactical Fighter development program to include the early development of prototype aircraft. Why was this done? What is the budget impact of this decision in 1987? What is the budget impact of this decision in 1988 and 1989?

ANSWER: During formulation of the FY 1988 budget, the ATF program was restructured to emphasize "fly before buy" and competition, reduce technical/cost risk and to implement Packard Commission recommendations. The demonstration/validation phase has been expanded to include the fabrication and testing of prototype systems. Contracts for this phase will now be awarded to two contractors/teams (teaming is encouraged). Each will build two flying prototype aircraft and one ground-based avionics prototype. "Best effort" prototypes with available funds are sought. The air vehicles will demonstrate basic aircraft capabilities including supersonic cruise without the use of afterburners, high maneuverability, flight handling qualities, low observables, and ATF prototype engines; the avionics prototype will serve as an advanced avionics integration testing laboratory. These systems will help define the ATF design and reduce the cost and technical risk of full-scale development.

The impact on total development costs of incorporating prototypes is under review. No increase in FY 1987 funding will be required; however, some reallocation of ATF funds among projects is anticipated. Funding in fiscal years 1988 and 1989 will be increased to accomplish prototyping; however, cost over the development program is expected to remain the same or decrease. The entire ATF program cost is under review and will be updated in the Dec 86 SAR.

QUESTIONS SUBMITTED BY SENATOR PROXMIRE

ATB STEALTH BOMBER

QUESTION: Secretary Cooper, the last time you appeared before this Subcommittee I asked you a series of questions about the B-1B bomber. You answered that there are no plans or intentions to purchase more than 100 B-1's. You also said that from every perspective it made more sense to move quickly to the Stealth bomber or ATB. Do you stand by that testimony today -- is your response still current and accurate from the standpoint of Air Force and DoD policy?

ANSWER: Yes. The Air Force and DoD position remains to field 100 B-1B's and deploy the ATB. The DoD Bomber Study verifies the effectiveness of this force mix and substantiates deployment of the ATB in the early 1990's.

QUESTIONS SUBMITTED BY SENATOR JOHNSTON

GFE FOR F-16

QUESTION: Regarding the Air Force fighter competition between the F-16 and the F-20, what percentages of F-16 present production is government furnished equipment (GFE)?

ANSWER: Approximately 48 percent of the Multiyear Procurement II air vehicle is GFE.

COMPETITION OF GFE FOR F-16

QUESTION: What percentage of the GFE for the F-16 is competed?

ANSWER: Ninety-nine percent of the GFE for the F-16 has been competed.

CFE ON F-16

QUESTION: What percentage of contractor furnished equipment (CFE) on the F-16 does General Dynamics provide?

ANSWER: Approximately 52 percent of the F-16 is CFE with General Dynamics, Fort Worth Division, providing 45 percent of the 52 percent.

SUBCONTRACTOR COMPETITION

QUESTION: What percentage of General Dynamics' subcontracts to its vendors is competed?

ANSWER: Ninety-nine percent of F-16 subcontracted items have been competed.

F-15 COMPETITION

QUESTION: Does the Air Force have any plans to compete the F-15? If not, why not?

ANSWER: The Air Force conducted a competition from 1982 through 1984 to determine which aircraft to procure to meet the dual role fighter mission requirements. The competition included evaluation of technical, cost, schedule, and support factors as well as flight testing of typical operational missions. This evaluation determined that the F-15E was the most cost effective aircraft to meet mission requirements. F-15E development and production are proceeding on schedule. There is no plan to reopen the competition.

QUESTIONS SUBMITTED BY SENATOR SASSER

PRIME CONTRACTOR MAKE-BUY DECISIONS

QUESTION: Please describe the Air Force's role in reviewing and ratifying prime contractor make-or-buy decisions involving major subsystems of an aircraft.

ANSWER: The Air Force assumes a role dictated by the specific requirements of the Federal Acquisition Regulation (FAR) SUBPART 15.7 and lower level Air Force regulations/guidance in reviewing and ratifying contractor make-buy decisions. The Air Force recognizes that the contractor has the basic responsibility for make-or-buy decisions as stated in the FAR, so long as they are consistent with government interests or policy. Make-or-buy plans are reviewed for their effect on price, quality, delivery, and performance, including technical and financial risk. In addition, other evaluation factors are considered during the Government's review as described in the FAR and AFSC FAR Supplement (SUBPART 15.7). They include industrial base concerns, cost, risk, capacity, schedule, and capability factors, as well as a number of judgement factors.

These responsibilities are imposed directly on the contracting officer, and contract administration function. In addition to the policy direction levied directly by the FAR, specific implementing

Air Force regulations require Air Force manufacturing management functions within the program offices and contract administration offices to assess periodically contractor make-or-buy strategies and assure that the Air Force requirements are satisfied. Contractor make-or-buy plans are periodically examined on-site during each production readiness review by the program office and during periodic contractor procurement system reviews conducted by the contract administration organization. These requirements are also systematically institutionalized in the contractor's way of doing business by a detailed production management military standard and a contract data item for production planning. In this manner, the Air Force maintains oversight of make-or-buy decisions commencing with acquisition planning, and continuing through contract negotiations and production.

PROCUREMENT OF A WHOLE AIRCRAFT SYSTEM

QUESTION: If a prime contractor determines that a major component of a program will be made in-house, even though it could be subcontracted on a fully-warranted basis at less cost, how are we assured that the whole system is being procured in a responsible manner at minimum cost?

ANSWER: The Air Force process of review, evaluation and negotiation of contractor make/buy plans as described in the Federal Acquisition Regulation (FAR) SUBPART 15.706 and the AFSC FAR supplement does not permit a contractor to "make" at a higher direct cost than he could "buy" unless overall tradeoff studies show that total rolled-up cost and risk benefits clearly favor the Air Force. Should developments in reviews conducted by the Air Force subsequent to negotiations give evidence to the contrary, the Air Force would revisit the "make" decision with the contractor.

CONTRACTING FOR MAJOR AIRPLANE ASSEMBLIES

QUESTION: Please describe the factors that are considered by the Air Force in determining in conjunction with the prime contractor, whether or not major airplane assemblies are to be built by the prime itself or by subcontractors.

ANSWER: Although contractor's make-buy strategies are reviewed on a recurring basis on-site during the production readiness review process and during annual contractor procurement system reviews, the key review milestones occur at proposal evaluation and contract negotiation. The intensity of review depends on the acquisition situation. For example, if the contract is competitive, then the review would be less extensive than under a sole source situation because of the competitive forces involved. The review, evaluation, and negotiation process focuses on the factors defined in SUBPART 15.706 of the Federal Acquisition Regulations (FAR), and the implementing requirements defined in SUBPART 15.706 of the AFSC Supplement to the FAR. These are listed as follows for your reference.

FAR

15.706(c)(d)(e) Evaluation, negotiation, and agreement.

(c) The contractor has the basic responsibility for make-or-buy decisions. Therefore, its recommendations should be accepted unless they are inconsistent with Government interests or policy.

(d) Contracting officers shall give primary consideration to the effect of the proposed make-or-buy program on price, quality, delivery, and performance, including technical or financial risk involved. The evaluation of "must make" and "must buy" items should normally be confined to ensuring that they are properly categorized. The effect of the following factors on the Government's interests shall also be considered:

(1) Whether the contractor has justified performing work in plant that differs significantly from its normal operations.

(2) Whether the contractor's recommended program requires Government investment in new or other facilities in order for the contractor to perform the work in plant. (This additional cost to the Government would not be reflected in the contract price.)

(3) The impact of the contractor's projected plant work loading on indirect costs.

(4) The contractor's consideration of the competence, ability, experience, and capacity available in other firms, especially small business, small disadvantaged business, or labor surplus area concerns.

(5) The projected location of any required additional facilities in or near labor surplus areas.

(6) The contractor's make-or-buy history regarding the type of item concerned.

(7) The scope of proposed subcontracts, including the type and level of technical effort involved.

(8) Other factors such as future requirements, engineering, tooling, starting load costs, market conditions, technical superiority, and the availability of personnel and materials.

(e) Contracting officers shall not normally agree to proposed "make items" when the products or services are (1) not regularly manufactured or provided by the contractor and are available--quality, quantity, delivery, and other essential factors considered--from another firm at equal or lower prices or when they are (2) regularly manufactured or provided by the contractor, but available--quality, quantity, delivery, and other essential factors considered--from another firm at equal or lower price. However, the contracting officer may agree to these as "make items" if their categorization as "buy items" would increase the Government's overall cost for the contract or acquisition program.

AFSC FAR SUPPLEMENT

15.706 Evaluation, negotiation and agreement.

(a) The contracting officer shall request the cognizant field contract administration activity to review and comment on the contractor's make-or-buy program.

(b) The administrative contracting officer must review the contractor's make-or-buy procedures and provide the contracting officer with an in-depth analysis. The following factors will be considered in analyzing the contractor's on-going make-or-buy program procedure:

(1) Efficient use of available facilities.

(2) Efficient use of available skills.

(3) Adaptability of the item to the contractor's normal type of manufacturing.

(4) Capacity and capability of the facility for the projected period of effort, including primary and alternate fuel/energy capability to meet current and potential manufacturing requirements.

(5) Capability of the organization to process and control

changes effectively for items advancing the state-of-the-art.

(6) Tooling philosophy and estimate of total tooling costs.

(7) Estimates of unit prices, including all direct and indirect costs that can be compared to alternative subcontracting prices.

(8) Proprietary nature of the product.

(9) Availability of critical skills.

(10) Unit price and delivery quotations of subcontractors.

(11) Need for additional capital equipment, modernization plans (including any anticipated use of capital investment incentives), and adherence to facility contract provisions for phase-out of Government-owned facilities will be considered.

(12) Capability to deal with program changes in a timely manner.

(13) Whether a change in location of a plant, division, affiliate or subsidiary is considered a change to the make-or-buy program.

(14) Analysis of the manufacturing risk assessment that was conducted to support changes in the make-or-buy program.

(d) The program office team must thoroughly evaluate proposed make-or-buy programs to ensure that the Government's best interests are protected. Especially important is the assurance that the proposed program provide [sic] for designating a group having the authority and technical capability to propose make-or-buy decisions. In reviewing and evaluating a proposed make-or-buy program, the contracting officer will make sure that the following factors are considered:

(8)(i) Target percentage to be subcontracted.

(ii) Percentage of work that will be directed to small business.

(iii) Components that should be subcontracted to broaden the industrial base. Ensuring preservation and improvement of elements of the industrial base and spares availability are factors which justify intervention in the make-or-buy process.

(iv) Components that must be subcontracted due to proprietary rights or other reasons.

(v) Parts to be made. Evaluate the components on [sic] the make-or-buy plan that are not identified as "buy" to determine if the proposed make-or-buy plan reflects a decision based on sound business and technical judgement. Some of the more important factors to be considered:

(A) Are the make items similar to and consistent with those normally manufactured by the contractor? If not, is the capability being developed at an increased total cost to the government? Does the contractor have the technical capability? Assuming the total price to the Government is acceptable, is the delivery risk factor acceptable?

(B) Do the make items require additional facilities? If so, are additional Government facilities required? If additional facilities are required, are they clearly and substantially identified in the plan or cross referenced to an appendix requesting additional facilities?

(C) Do the subcontract and make prices include the proper prorated tooling costs, transportation costs, cost of special handling for unique or sensitive components, additional Government facilities costs, and any other costs that may be allocable costs to the components?

(D) Are make-or-buy decisions pending on other programs that may affect the same period of effort?

SUBCOMMITTEE RECESS

Senator ANDREWS. The subcommittee will stand in recess until Thursday, June 19, when it will reconvene to receive testimony from Secretary Weinberger on the fiscal 1987 budget.

Thank you.

[Whereupon, at 11:45 a.m., Thursday, June 3, the subcommittee was recessed, to reconvene Thursday, June 19, 1986.]

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